



BILLINGS SADDLE CLUB *September 2006*



Alkali Creek Road, PO BOX 385 Billings, Montana 59103

2006 BOARD MEMBERS

President	Pat Cole	962-3002	
Past President	Josie Skibstad	373 6524	jskibstad@imt.net
1 st Vice President (Membership)	Susan Malmstrom	373-6736	suem@tbems.com
2 nd Vice President (Horse Activities)	James Sorlie	259-9995	sorlie@imt.net
3 rd Vice President (Social Activities)	Nancy Bjelland	373-0045	Nancy_Bjelland@blm.gov
Corresponding Secretary	Polly Namen	633-9400	
Recording Secretary	Teri Bakken	652-5991	
Treasurer	Doris Gillespie	656-9977 or 861-9977	
3 Year Director	Sandie Green	373-9029	sam7sell@yahoo.com
2 Year Director	Debbie Magilke	252-7638	ddmag@imt.net
1 Year Director	Sue Schwend	445-2436 or 670-8028	
One-Day Horse Shows	Beth Anderson	671-7522	anderart@180com.net
Stirrup Editor	Polly Namen	633-9400	
Gate Combination	2222		
Club Website	www.billingsaddleclub.org (for access to member restricted area, enter "member" and "2222")		

Your 2006 BSC ROSTER is available on our web site (see above for website directions). From the website, you can print whichever components of the roster you wish to have available on paper. This method of delivery has saved the club money in printing and mailing costs, plus, it is updated regularly. If you are unable to access the roster online and want a copy, let me (Polly Namen) know and I will print you a hard copy.

LOST: Leather running martingale @ 9/10 Horseshow. If found, please call Tom Malmstrom at 967-2261.

MEMBERSHIP

New Members:

Elaine Guffey PO Box 426 Laurel, MT 59044 697-4600 Children: Punky 8/5/86

Troy & Kate Renner 2649 Ranchette Rd Billings, MT 59105 254-9867 Children: Nicole 1/17/96

Marty & Nanette Tomlin 30 West Bench Road Roberts, MT 59070 446-4091 Children: Ridge 2/5/98

Tara Hultgren 944 Avenue B Billings, MT 59102 669-3817 Children: Stene 11/10/93, Kaari 4/17/95, Britte 5/22/97

Debora Wines 4611 Powmer Road Billings, MT 59105 373-6029 Children: Jordan 4/2/96, Jasper 8/15/94

New Applicants:

HORSE ACTIVITIES CALENDAR FOR 2006

Oct 1 Memorial O-MOK-SEE 2pm – Committee: Your 2006 Board Members

Oct 8 Fall Trail Ride – time and location to be announced - call Jim Sorlie for details at 259-9995.

HEY WINNERS!!!!!!!!!! The year to date **O-Mok-See and Horse Show standings** are posted in the BSC office. They are also on our website.



Classified Advertisements



If you have (or someone you know has) horses, tack, trucks, trailers or any other horse related equipment **for sale** (or **wanted** items) that would interest our membership, contact the STIRRUP editor (Polly Namen 633-9400) with your ad information.

**Anyone want a scraper, post hole digger, or cultivator???? See Sue Malmstrom!

The 2006 STATE O-MOK-SEE was held in Cut Bank over Labor Day Weekend. Rumor has it that it was a really FUN weekend. (Except for poor Sue Schwend!) **GET WELL WISHES** go out to Sue Schwend, injured recently at the State O-Mok-See in Cut Bank. We've all been there, Sue, and we all "feel your pain". Eighteen of our members placed in their various events and age groups. WOO HOO! Billings Saddle Club ROCKS!!

The 2007 Nominating Committee (Sandy Green, Nancy Bjelland) is searching for BSC members to serve on our **2007 Board of Directors**. Please contact a Board Member if you are interested in any of the offices. The Board would show more diversity/balance if a member that is interested in horse shows was added to the mix. **We need you!!**

If you have any suggestions for changes to our club's by-laws, now is the time to bring it to your Board of Directors. Please call one of the board members or attend the **October 2nd board meeting**, @ 6 pm. Some considerations/issues/remedies that have already been brought forward are concerning committee members that do not help, nor find alternate help, at their assigned events. This is a hardship for all when it occurs and therefore a concern to address.

Our condolences go out to Stacy Nelson, and her family. Stacy's dad passed away this month.

Another recent death was BSC lifetime member, Mildred J. Ralston. Millie was 90 when she passed away peacefully, Friday, Aug. 18, 2006, at Quaker Heights Care Community in Waynesville, Ohio. She had moved to Ohio to be near her son, Jay Ralston, and his family.

OCTOBER WORK DAY There are many things to be done around the clubhouse.

Sandy Green had the following suggestions... "When going through the clubhouse I saw some things we could do to update and clean up the look of the club house.... 1) get rid of the bar - it is ugly and takes up unnecessary room. They can use tables for a bar if they want - or the kitchen. 2) the shelf behind it to go as well 3) the band stand- it is too small for most bands and too close to the heater. If we removed these 3 things it would clean up the look of the club house and give more room. We need to do some work in the kitchen area and clean out the upstairs area. Debbie and I did kind of walk through to see what time is doing to the club house. I am putting together a list for the next meeting for our clean up day this fall."

At the September board meeting, **Teri Bakken was nominated to replace Maria Schillinger as Recording Secretary** for the remainder of this year, as Maria has moved back to the Miles City area.

AUGUST BOARD MEETING MINUTES

The Billings Saddle Club Board Meeting was called to order by Pat Cole, President, on 8/7/06 at 6 pm.

Present: Maria Schillinger, Sandy Green, Sue Schwend, Sue Malmstrom, Polly Namen, Jim Sorlie, Pat Cole, Doris Gillespie, Nancy Bjelland, and Teri Bakken.

Minutes: The August 2006 minutes were read, Doris Gillespie motioned to accept the minutes and Nancy Bjelland seconded the motion. The Board approved.

Treasurer's Report: Doris Gillespie presented the Treasurer's Report for August. Net income is up for the year. Net rentals are running even with last year. Polly Namen motioned to approve the report and Maria Schillinger seconded the motion. The board approved.

Social Activities: Nancy Bjelland presented social activities; She is looking for some ideas for the Memorial OMS. There may be possible scavenger hunt.

Correspondence: Polly Namen presented correspondence.

Horse Activities: Jim Sorlie presented horse activities. Big Sky State Games went well. Next year the club may incorporate a horse show with the state games.

There will be 29 members attending National O-Mok-See.

Membership: Doris Gillespie motioned to approve the four new members, Nancy Bjelland seconded the motion. The board approved.

There are five new memberships to publish to the *Stirrup*: Guffey, Renner, Tomlin, Hultgren, Wines.

Rentals: Deb Magilke has had a lot of interest in renting the club and has been sending out contracts. Rentals are going well.

Stirrup: Polly Namen is looking for any additional information to publish in the newsletter. For example, area happenings or results.

Unfinished Business: Pat Cole finished repairing the storage shed roof. Her family is donating it's services.

Sue Schwend motioned to allow Sandie Green to spend up to \$150 for a wood floor cleaner for the clubhouse and Doris Gillespie seconded the motion. The board approved.

New Business: The YRS has a used water truck it would like to trade for a reduced rental rate for next year. Sandie Green motioned to table the water truck until we can get more information and Sue Schwend seconded the motion. The board approved.

Sandie Green's family will donate it's services to fix the arena exit gate. There is a piece that sticks out and needs to be cut off. Nancy Bjelland motioned to allow Sandie Green to repair the exit gate and Sue Schwend seconded the motion. The board approved.

It has been brought to the attention of the board that a non-member has been giving lessons before the BBRS rental.

Doris Gillespie motioned to reimburse \$395 to Pat Cole for a broken water hydrant from the National OMS at the Gillette Cam-Plex and Sandie Green seconded the motion. The board approved.

Director Reports: It is time to form a nominating committee for next year's board. Nancy Bjelland and Sandie Green are chairing that committee. Also an ad will be published in the *Stirrup*.

Sue Schwend motioned to adjourn the meeting and Nancy Bjelland seconded the motion. The board approved.

Announcements: The next BSC board meeting will be September 11, 2006.

Respectfully submitted,
Maria Schillinger

Gravity Part 2 by Wendy Murdoch

The horse's skeleton—a bowling ball, a flexible straw, a bowl and two pairs of stilts

In the last article, I discussed the fact that gravity determines how we move. The human body is designed to exist in gravity. The skeleton protects the internal organs and provides the structural ability for us to move around in gravity. Horses are also subject to the law of gravity. They also have a skeleton by which to move around and to protect their internal organs. While there are tremendous similarities between the horse and the human, there are also some fundamental differences.

Vertical vs. Horizontal

Perhaps the most obvious difference between the horse and the human is that humans stand upright on two legs, while horses are horizontal, standing on four legs. I am sure that this is quite obvious to most horse people. Rarely do we want our horses to travel around on two legs. The horizontal orientation of the horse provides a lot more surface area for gravity to act upon. Part of the increased area is due to the mere size difference, horses being a lot larger. Therefore, dealing with the effects of gravity is going to play a big part in the overall balance of the horse, without a rider on his back. Then consider what it must be like for the horse to cope with the additional 150—200 lbs. of rider and tack.

Second, when standing vertically it is clear that for humans the pelvis is underneath the head. It is much less obvious to see how the horse's bowl balances its bowling ball, since the horse's head can be about 6 feet away from his pelvis. We will look at this issue of balancing the horse's head with the pelvis in the next article. In addition to the orientation of the two bodies, there are some differences in the bone structure between horses and humans. I actually think it is quite amazing to see how similar our two skeletons are. I will point out some of the major differences as we go along.

The bowling ball — the head

The horse's bowling ball is equivalent to ours — the head. While our bowling ball is round, the horse's bowling ball is oblong, and it weighs about 100—150 lbs. This is about 10% of the horse's total body weight!



Preparing to do a belly lift.

The way the spine and the skull meet in horses and humans is again similar and somewhat different. Where your head and spine meet is behind your nose and between your ears. Your top three vertebrae are above the line of your chin. The horse's bowling ball hangs forward and down from the spine more like a drop of water hanging from the end of a stick. When you look at it from the perspective of the skeleton, it is going to take a particular alignment in order to hold the head up effortlessly.

The juncture of the skull and the first cervical vertebra is again quite similar. There are two ridges on the back of the skull (horse) or



Andy a belly lift.



Bending to the left. Notice that the spine has incurved to the left and the back has lifted.

into shallow cups on the first cervical vertebra. This allows for a nodding motion of the head. When the entire skeleton is functioning to counterbalance the head, the poll will be the highest point, and in collection, the plane of the horse's face will be vertical if this joint can move freely. When you are balanced through your skeleton, your head will be well balanced over your feet without the chin tucked in or sticking out.

As in humans, most of the horse's senses are located in his head along with the brain. The horse's eyes, ears, nose and mouth are located in the head. Just like in humans, the horse's nervous system is designed to keep the horse from hitting the ground. Loss of consciousness and/or death will occur if the horse is not capable of balancing the head. Therefore, the horse will not be relaxed or able to listen and respond to your commands if there is something preventing him from balancing and protecting his head and using his senses (ears, eyes, nose) to perceive his environment.

However, the major difference between our head and the horse's is that the horse's head sticks out horizontally like a flag at the end of a 3' pole — the neck. This is unlike our head, which is placed above our feet. The horizontal orientation is going to require a lot more muscular work to carry the bowling ball around. Maybe that is why horses like to spend a lot of time with their head down grazing.

The flexible straw — the spine

The horse's flexible straw or spine is made up of 7 cervical vertebrae, 18 thoracic vertebrae, 6 lumbar vertebrae, 5 sacral, and a bunch of tail vertebrae (around 16). This means that horses and humans have the same number of vertebrae in their necks. For that matter, so do giraffes. On the other hand, owls have 22 vertebrae in their neck, which is why they can turn their head and see all around without moving their eyes.

The way in which the cervical vertebrae move is also similar in horses and humans. The movement of the joint where the bowling ball meets the spine (the skull and the first vertebra) is known as the atlanto-occipital joint, the poll in the horse. The primary movement at this joint is a very small "yes" nod. The junction of the first and second vertebrae (atlas/axis) allows the head to turn. In humans this is a left/right movement or the "no" movement of the

head.

In horses, turning the head is also a left/right movement. But, since the horse's head is hanging horizontally, the movement is expressed a little differently. If the head is held at wither height, the turning movement in the chin is to the left and up to the right and up. The ears become unlevel when the horse turns his head left and right at the junction of the first and second cervical vertebrae (C1/C2).

The joint between the second and third vertebrae (C2/C3) allows us to tip our head to the side. This movement brings one ear closer to the shoulder on the same side. In the horse this movement is associated with the horse turning his head slightly to the left or right with the ears remaining level. This allows you to just begin to see the horse's inside eye while riding.

The remainder of the cervical vertebrae add a larger range of motion in turning, tipping and nodding. However, full range of motion for these movements is not limited to the cervical vertebrae. The remainder of the spine also plays a part. Horses generally have 18 thoracic vertebrae (vertebrae which have ribs attached) and 18 pairs of ribs (Arabians can have 17). This part of the flexible straw goes from the chest, between the front legs, to the loin area. The area of the rib cage starting behind the shoulders is where the horse is capable of carrying the saddle and rider.

It is very important that the saddle spans the rib cage properly or the horse can wind up with tremendous back pain. The withers are actually tall bony processes called the dorsal processes, which stick up vertically from approximately the 4th-10th thoracic vertebrae. It is extremely important that the dorsal processes are free from any contact by the saddle at all times. This bony area is unprotected by muscle. It would be the equivalent of someone rapping on your shins if the saddle tapped on the withers.

The saddle should contact an area no longer than the distance from behind the shoulder blade to the last rib. (The saddle can be longer, as many western saddles are; it just cannot contact the loins.) Otherwise, pressure will be applied to the lumbar spine (the next part of the flexible straw) or on the shoulders themselves. These areas are not designed to bear weight. If the saddle is too short or does not fit properly, the rider's weight will be unevenly distributed over the rib cage. This can restrict the thoracic spine and the overall function of the flexible straw.

In the horse there is no bony attachment of the ribs or thoracic spine to the front legs. This is a major difference between the horse and human skeletons. We have a collarbone, which provides a bone-to-bone connection between the shoulder girdle and the rib cage. The two meet at the sternoclavicular joint (sterno = sternum and clavicle = collar bone). (This is the area where Patrick Swayze touched Demi Moore while she was sitting at the potting wheel in the beginning of the movie "Ghost.") You can feel this on yourself. Simply find the notch at the top of your sternum and then go slightly to either side. If you raise and lower your shoulder, you will feel a slight movement here. Then trace the collarbone over to the shoulder and move your elbow in and out. You might be able to feel where the other end of the collarbone attaches to the shoulder girdle.

When there is no collarbone, as in the horse's case, the muscle system keeps the rib cage suspended between the front legs. Think of the rib cage as lying crosswise in a hammock with two trees holding the ends of the hammock up on the right and left. The trees are the front legs. The rib cage floats in this sling of muscle. Therefore, the horse's withers can go up or down between the pillars formed by the shoulders.

The muscles of the sling lift the rib cage, spine and withers. This is important in collection. If there is a kink in the straw (due to pressure on the withers, poor saddle fit, back pain or bad riding) that restricts this part of the spine, the sling muscles will not be able to lift the withers. A kink will restrict the flow of energy through the straw and block the horse's movement in the back. Of the three basic gaits, the movement of lifting or not lifting the withers is most noticeable in canter. A horse that can freely lift his withers will have a round canter. The horse that cannot lift its withers will have a flat, rushing, or heavy on the forehand canter.

The thoracic spine is also very important when asking a horse to bend. Here I am referring to bending as in incurving the horse on a circle either right or left depending on the direction in which you are riding. This is somewhat equivalent to side bending in humans, i.e., reaching down with your right hand towards your right foot without

leaning forward or back. People can side bend a lot more than a horse can.

In order for the horse to bend, he has to be able to flex the back, rotate the rib cage outward, curve the spine and close the ribs on the inside of the bend while opening the ribs on the outside of the bend. This three-dimensional movement will make room for the hind leg to step underneath the horse and provide an upward thrust rather than a forward thrust from the hind leg.

If the neck portion of the flexible straw is free, the neck will express the bend. Many riders attempt to create a bend in the horse by pulling the head around to the side. While you can create a proper bend this way, many times riders wind up only moving the neck and not getting the thoracic spine to incurve. If the thoracic spine does not bend correctly, the horse will have a false bend in the neck.

Suffice it to say that if you can pick up the inside rein and feel the bend go through the entire horse, most likely the spine is unobstructed by tension. But, if there is a kink in the flexible straw, you may only be taking the neck around when you pick up on the rein, if that. (See photos for back lifting and bending.) In other words, bending occurs throughout the entire spine including the thoracic spine, not just in the neck.

The next part of the flexible straw is the lumbar spine. There isn't a lot of rotational movement in the lumbar spine. The lumbar spine is more like your two fists butted up against each other with the knuckles meshing. However, horses are very capable of rounding or flexing the lumbar area of their back. In fact, the lumbosacral joint has the greatest range of flexion in the whole spine. But horses can't flex the lumbar spine if there is any pressure on this area of the back. The most common impediment is a saddle that is too long for the horse, or a rider who is sitting on the cantle of the saddle. Restricting movement in the lumbar area of the spine will prevent the horse from bringing his pelvis underneath as occurs in collection.

In order for the horse to balance the head through the skeleton, the entire flexible straw needs to move. If there is any part of the spine that is restricted, it will inhibit the horse's ability to carry his head effortlessly. Think of it as a series of dominos. If one piece is not properly lined up, it will affect the entire chain and the overall outcome — if the dominos are lined up correctly, knocking the first one down will continue to the end of the chain even if they are lined up around a curve.

The horse's flexible straw continues on past the sacrum to the vertebrae in the tail. Horses have a lot more tail bones than we do! Again, it is important that these vertebrae move freely because a kink in the tail can affect the fluidity of the overall vertebral column.

The bowl — the pelvis

Perhaps this is the piece of the skeleton that least resembles the human counterpart. Your pelvis could be equated to a bowl with two feet on the bottom, while the horse's pelvis is horizontal, with his feet (the point of the buttocks) sticking down toward his back end. This is the back part of the pelvis. The hips are on the side.

The top of the pelvis in humans is called the iliac crest. The counterpart in the horse is the point of the hip, the prominent bump just back of the loin area on the side. This can cause problems when talking about the hips because many people think their iliac crest is their hip when, in fact, it is not. The only place that is actually the hip is the hip joint itself where the ball at the top end of the thigh or femur meets the socket in the pelvis.

Where the spine and the sacrum meet is called the lumbosacral joint (lumbo = lumbar spine and sacral = sacrum). The tail bones are attached to the end of the sacrum. The pelvis is made of two halves with the sacrum firmly held together with very strong ligaments between the back of the two halves. The junctures of the sacrum and each half of the pelvis are known as the sacroiliac joints (sacro = sacrum and iliac = top of the pelvis). Where the bottom of the two halves of the pelvis join is the pubic arch.

In humans the sacrum is like a pendant at the base of the flexible straw. It is triangular-shaped like a slice of pie. The horse's sacrum is elongated rather than triangular and runs horizontally. The croup is the angle formed by the whole sacrum beginning at this joint. Sometimes this area becomes damaged and sticks up. This is often referred to as a "jumpers bump."

The shape of the pelvis is quite different in the two species; however, it serves the same function. The pelvis is the counterbalance to the head. This is also where the hip joints are located. When the horse pushes off the ground with the back legs, the force is transmitted through the hip joint to the pelvis and then through the spine to the head if the skeleton is functioning correctly.

Two pairs of stilts — the legs

Instead of having one pair of stilts to walk on as we do, the horse uses two pairs of stilts. Our arms are their front legs and our legs are their rear legs.

In the front legs, as I have already mentioned, one major difference between the horse and human skeleton is that the horse does not have a collarbone. In other words he does not have a bony attachment of his shoulder to his rib cage. However, his shoulder blade, upper arm and elbow are quite similar, differing in the proportion of the bones. When we get below the elbow, things are very different. We have two bones in our forearm, radius and ulna. This allows us to rotate the forearm. Rotation would be a bad idea for the horse to have below the elbow. Fortunately, the ulna is almost nonexistent thus eliminating this possibility. Next is our wrist. This is the equivalent of the horse's front knee. Going down from there we have 5 bones in the hand known as metacarpal bones. The horse has almost eliminated all but one, the cannon bone. The remains of the metacarpals are the two splint bones and possibly the chestnut and ergot. Finally, the horse stands on the equivalent of our middle finger, which has become the long pastern, short pastern and coffin bone.

The differences in the hind legs compared to humans are similar to the horse's front legs. The horse has a very short thick bone, the femur, which is equivalent to our thighbone but proportionately much shorter. The stifle is the equivalent of our knee. We both have a patella or kneecap. Below the stifle things change again. We have two bones in the lower leg, tibia and fibula. The horse essentially only has one, the tibia. There are the remains of the fibula, but they do not go very far down the fibula before they end. This is a good thing. If the horse had a functional tibia/fibula it would allow rotation between the stifle and the hock. I am not sure the horse would be able to carry us if that happened! The horse's hock is equivalent to our ankle. Sometimes the ankle is referred to as the gyroscope for the body in humans. Hocks are certainly very important in horses. They need to be well shaped, strong and not twist in order for the horse to propel himself well from the hindquarters. Below the hock is the cannon bone, which, again, is the middle bone or metatarsal of the foot. The fetlock is the knuckle at the base of your toe or finger where it joins the palm of the hand or foot. The hind pastern and hoof are the three bones of your middle toe. The remaining toes again are rudimentary structures similar to the structures in the front leg.

So there you have it: the bowling ball (the head), the flexible straw (the spine), the bowl (the pelvis) and two pairs of stilts (front and rear legs.) Next time we will look at how the bowl counterbalances the bowling ball for both horses and riders.

Here's a BIG THANK YOU to Liza Dada Malmstrom (Tom's wife), who painted "The Blue Streak" (below) and donated a signed print, (# 1 of 2) to the BSC. The print is framed with part of the cost of framing donated by Deck The Walls, owned by Jim and Lori Malmstrom. Now the club needs to decide how to use the print.... raffle, silent auction, etc, to make the most money for the club.

