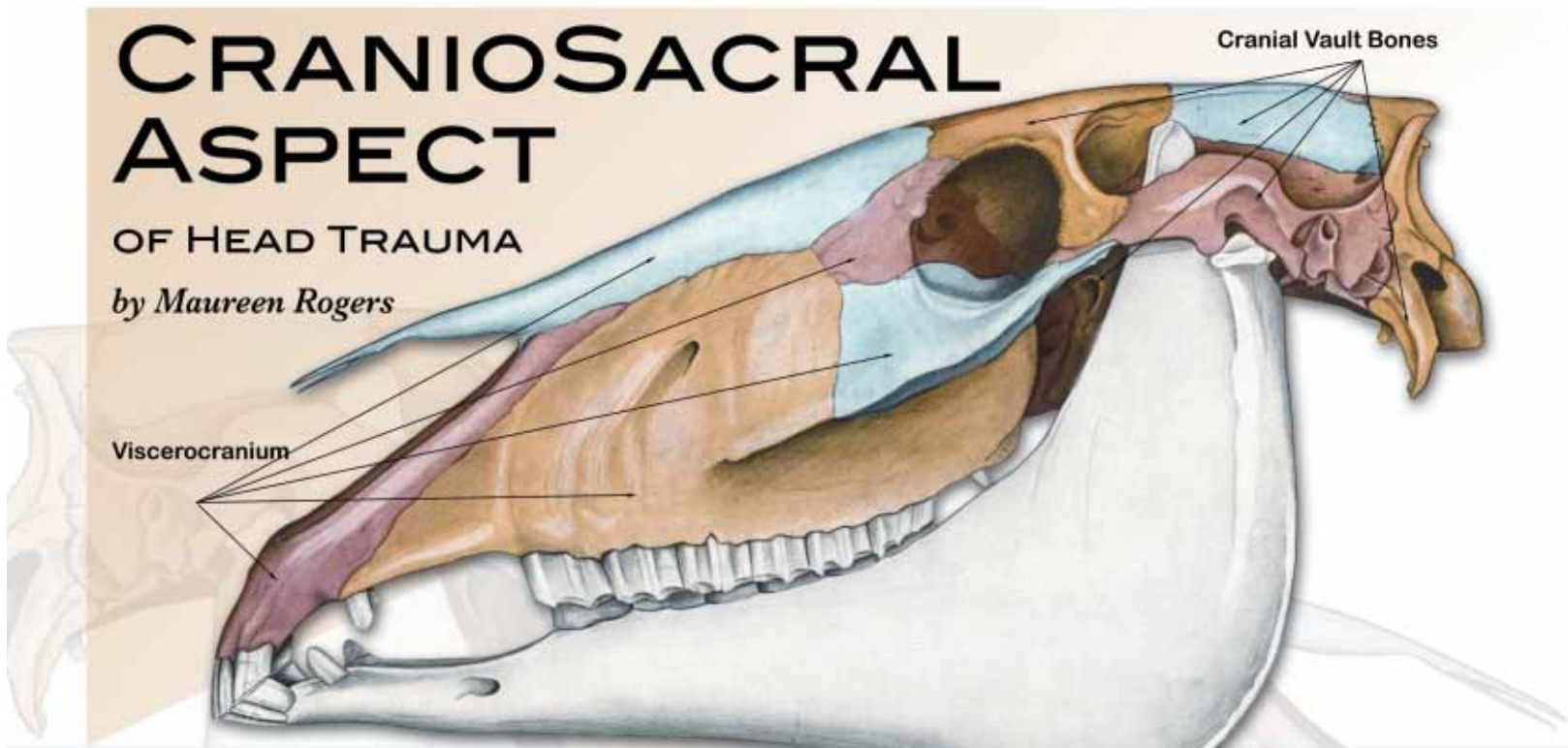


CRANIOSACRAL ASPECT

OF HEAD TRAUMA

by Maureen Rogers



Healthy living bone has a natural degree of pliability, and can remodel and regenerate after injury. Bones will even change shape under constant pressure – which is one reason why the effects of head trauma can be lifelong.

Many horses live 'healthy' lives and compete with a huge dent in the head, and they do well, but the question needs to be asked, at what cost to the horse? Even the smallest head injury can have lifelong influences on the horse's behaviour and performance.

When head injury occurs the effects can be immediate and life threatening or they can be delayed and not at all obvious. The alarming truth is that every impact on the cranium (head) causes a degree of damage to the bones. This may be greater than the horse owner realises, with injuries written off because the horse got up and walked away, or its performance seems immediately unimpeded. But underlying damage often occurs, and if left untreated the horse can carry the effects for the rest of its life. Not all head traumas are serious, but the position and structure of the bones of the skull can

be impacted, affecting the animal's nervous system, sinuses, breathing, co-ordination, behaviour, biomechanics and performance.

ANATOMY OF THE EQUINE SKULL

The horse's skull, or cranium, is like a giant jigsaw puzzle; a complex and intricate weaving of 26 individual plates of bone, each varying in shape and size; its unique and amazing design protects the brain and eyes, houses the teeth and forms the airway and sinuses. Each of these bones is joined together with what are called sutures. Grooving into one another like dovetail joints, sutures are designed to help disperse the impact from any head trauma. Healthy living bone - made up of fatty tissue and with a blood supply, has a natural degree of pliability, and can remodel and regenerate after injury. Bones will even change shape under constant pressure – which is why the effects of head trauma can be lifelong.

Continued

EQUITANA PRESENTER



Maureen Rogers will be a presenter at Equitana 2008 between the 20th-23rd November at the Melbourne Showgrounds. For more details see www.equitana.com.au

About The Author



Giles Penfound Photographer

A pioneer in the field of equine craniosacral work and the founder of the Equine CranioSacral Workshops, Maureen is internationally renowned for her craniosacral work and biomechanics in the performance horse and provides education for horse owners and professionals. She has recently released her first DVD titled *Hope for Headshakers- A CranioSacral Approach to Equine Health*.

Maureen will be offering workshops in Melbourne in November. For more information phone 0419 894 822 or visit the website www.equinecraniosacral.com.

This skull of a young horse clearly shows 'sutures' and demonstrates that the bones of the cranium are not fused. When head trauma occurs, the bone plates are jammed into each other, which can have an effect on the horse's neurological condition.



Maureen Rogers photo

CranioSacral cont....

When examining head traumas and injuries, two parts of the equine cranium are considered: the viscerocranium, or facial bones, which form the sinuses, face and house the teeth; and the cranial vault bones, or 'brain box'. Damage to the cranial vault bones, which protect the brain, can cause severe neurological effects and brain damage. In young horses, trauma and injury can be greater because the skull is more vulnerable and still developing.

In any degree of head trauma, compression can cause bruising and swelling, and displace the organisation and function of the cranial bones, cranial nerves, soft tissue and in severe cases, the brain. A millimetre of displacement causes pressures and stresses, which impact on the horse's inner- and outer perception of its environment. The severity of head trauma depends on where and how the impact occurred. Each bone of the cranium houses various cranial nerves, which can be damaged during the trauma. Any forceful pressure - from trauma or injury - put on the bones around the brain also puts pressure on the brain tissue inside the skull, and the trauma can cause bruising to the brain, bleeding and swelling.

Injury to one side of the head can cause more damage to the opposing side of the head and brain. This is called *contra coup* - where if the horse suffers an impact to the front of its head the resulting compression damages would be greater on the base of its skull than on the impact site. A possible result from such an injury would be an effect on the horse's vision and ability to flex at the poll.

SHOWING THE SIGNS

Many horses can seem 'fine' after a head trauma, but more often than not they are very uncomfortable and suffer from undetected symptoms such as 'headaches' and light sensitivity. An unhappy or dull eye of the horse can indicate possible headaches, and any of the following symptoms can indicate various problems that the horse may be suffering: facial nerve paralysis; problems with vision, balance, sinuses or hearing; head-shaking, (immediately or over time); changes in behaviour, personality, action or performance. Other signs are difficulty in turning the head one way or the other; altered breathing or gait movements; sinus infections; a dull eye; lack of interest in the world, or feeling flat in its work.

Every impact on the horse's head causes a degree of damage. This may be greater than the horse owner realises, with injuries written off because the horse got up and walked away, or its performance appeared not to be affected.



Photos by Maureen Rogers



Trauma affecting the bones of the cranial vault require immediate veterinary attention. Any injury to the head top left and above (a Polo pony that was struck by a ball), could be connected to behavioural or performance problems.

Trauma affecting the bones of the cranial vault area is far more dangerous and requires immediate veterinary attention, as severe bleeding on the brain or fracture to the cranium can be life-threatening. The horse may suffer severe neurological damage such as loss of vision, balance and coordination. A sign of such damage is when the horse staggers as though drunk.

AFTER HEAD TRAUMA

It is important not to underestimate the possible degree of damage created by a head

injury; especially as the effects are often not immediately evident. It's very important to consult a veterinarian, no matter how small the injury appears. If the horse gets up and walks away this DOES NOT MEAN it is OK. The degree of immediate damage may not be life threatening, but leaving the horse disoriented and probably with a 'headache', cuts and bruising, can mask more severe damage inside the skull.

Horses that have suffered head trauma can be extremely sensitive to further pressure being placed on the skull. Flicking or shaking the head indicates that internal pressures have become distressingly uncomfortable and are affecting surrounding nerves and tissue. This can occur long after the injury - when dentistry is performed, for instance. An underlying condition can remain dormant until further pressure is added to the skull. The use of bits, ill-fitting bridles, too-tight nosebands and dentistry will often exacerbate bone-plate displacement and worsen the effects of pre-existing head trauma.

Because of this, signs such as changes in behaviour, spooking, difficulty in loading or nervousness -

either immediately or over time - can indicate worsening effects of a past head trauma. Many horses suffer post-trauma 'headaches' but still push through their work. An injury may have occurred many years ago, or was never even noticed. It's common not to connect behavioural problems with head trauma, so noting and following up any symptoms and changes in behaviour, is important.

It's equally important to consult a correctly-trained professional to treat the injury. The good news is that with proper treatment the vast majority of problems can be resolved - even years after injury: if the horse has survived, it's never too late for treatment. Damage done to the cranium needs to be addressed for the sake of the horse's comfort, health and performance. 🐾

CranioSacral Therapy

Derived from medically-recognised osteopathy, CranioSacral therapy has been used successfully in the treatment of horses suffering from head trauma. It is the only therapy that addresses the bones of the cranium, the aim being to restore perfect balance to the structure.