



## RIDING AND VISION

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When we ride, the number of processes going on both physically and mentally in our bodies is surprisingly complex. From a physical point of view there is a need to maintain a balanced, vertically orientated body, to continually adjust weight and posture to compensate for the forward/sideways/vertical forces we are subject to from both the horse's and our own motion and finally to maintain awareness of our surroundings to anticipate any changes of posture that may be needed next. Whilst doing all these things our sensory input includes the physical forces on our body from gravity and the horse's motion, the surrounding ambient sounds from our horse, ourselves, music, animals, vehicles etc and the visual information collected about our immediate environment, potential hazards, planned route of travel as well as signals from our horse (eg. what are his ears doing?)

If you attempted to ride with just one of your senses disabled or reduced, the effects would be dramatic. For example, try staying in the saddle when you have a middle ear infection, the loss of balance would make this almost impossible and the motion of riding would probably produce nausea. Or what about riding with headphones on? Can you hear the car coming up behind you, the shouted warning of a danger from a companion or the subtle changes of breathing that may indicate distress in your horse? What about if we took away the visual sense and you were blindfolded? A wonderful experience of learning under strict supervision but hardly an ideal way to enjoy your ride!

So, we all understand that each of our senses plays a role in everything we do but I want to discuss the specific visual needs for the rider.

### *I can see so what's all the fuss about?*

It's good that most of us can see quite well without assistance but there are many considerations that impact on the rider's experience that go beyond the basics of just seeing.

Let's start with the simplest of visual problems. As we age, most of us will find that we can't see things close to us as well as we used to and the need for reading glasses becomes evident. The implications of poor vision at near though, go well beyond reading. Can you see the slight swelling at the back of the hoof or the early subtle cracking in the leather of your straps? Are their minor changes to your horse saddlery that might indicate a possible failure in future but that are indistinguishable because you can't see the detail sufficiently? Can you see that tiny nit working his way up your mare's mane? As simple as it sounds, putting on your "readers" to do many of the day to day tasks around your horse and gear could be all the help you need.

Now if we begin our visual journey outdoors what then are the issues? The ever-present ones are environmental conditions and the surrounding terrain. Obviously the better we can see the sooner we can detect hazards such as potholes, overhanging branches, snakes, uneven surfaces, vehicles etc. Surprisingly, many people actually live their lives with sub-normal vision and are content to see things slightly out of focus. The advantage of seeing optimally however, is that it maximizes your opportunity to anticipate events or hazards sooner and consequently avoid or modify the situations you encounter to your benefit. Clear vision also allows us to judge distances and heights more accurately making our approach to jumps more precise and outcomes more satisfying.

Taking this further, the outdoor environment subjects us to both physical stress in the form of heat, cold, rain, wind and humidity but it also inflicts visual stress on us as well. Heat and wind produce

problems of drying of the front surface of the eyes (cornea) which leads to discomfort, burning, intermittent blurring of vision and fatigue and these can be managed with lubricating drops or glasses/shields to keep the drying airflow across the surface of the eye to a minimum.

The glare from the sun is perhaps the single biggest problem for a rider outdoors. And what do most riders do apart from wearing a hat? They squint...and all a squint is an attempt by the body to minimize the amount of light, in this case discomforting glare, entering our eyes. Squinting however leads to muscular fatigue around the eyes, sometimes headaches and sometimes wrinkles! Additionally, squinting reduces but does not prevent the biggest hazard of the sun, UV radiation, from damaging our eyes. UV radiation is a major factor in the development of cataract in the lens of the eye, in triggering melanoma (yes you can get these in your eyes) and in the development of age related macula degeneration (ARMD) that can leave you with little or no central vision. A hat will protect you from some glare and UV but many forget that much of the discomfort we experience in bright sunlight comes from reflected glare. Reflected glare from concrete, sand, water, the metal of bonnets and sheds, the white surfaces of some outdoor arenas, all these sources of glare are not reduced by wearing a hat. If you take only one message from this discussion, the message is to protect your eyes from glare with sunglasses. There are many types of sunglasses with a multitude of lens colours, types, polarization, photochromic, anti-reflection coatings, frame styles etc and that is where professional advice can help you avoid making costly mistakes in your purchases. There may not be a single pair of sunglasses that will work under all viewing conditions, nor may some sunglasses be suitable for wearing under a riding helmet so there are more considerations than you may have first thought about when protecting your eyes from glare.

My final point on the issue of glare regards what is known as “disability glare”. Whereas we can all understand the concept of discomfort glare, it’s bright, it hurts, it makes us squint and look away, disability glare is quite different. The easiest way to understand disability glare is to remember what it is like when driving directly into a setting sun when your windscreen is filthy. The bright sunlight hits the windscreen, the myriad number of dirt and grease particles on the glass each scatter a portion of the incoming light in multiple different directions producing a veiling disabling glare that means you simply can not see through the haze. It’s dangerous because you can’t see and it’s not always easily overcome. Again sunglasses, particularly with polarized lenses, will help and naturally also cleaning the windscreen! For any of you that do have cataracts, this is the exact same mechanism that makes it so hard to see when you walk facing a setting or rising sun, or have car headlights flash across your eyes.

The final aspect of the outdoor riding experience I want to touch on is the issue of dust. It’s everywhere isn’t it? So what’s the problem? Several problems actually but the main ones are the drying to the eyes already covered above but also the risk of injury, infection and allergy. Jockeys wear goggles for good reasons, the dust and dirt thrown up by the horses galloping in front of them presents a potential risk of injury from particles striking the eye and infection from the introduction of bacteria and other infective entities into the eyes from dirt, horse droppings, pollens, insects etc. Again wearing a protective lens, made from plastic and ideally polycarbonate plastic, will minimize the risk to your eyes. These lenses have high impact resistance and can be made in prescription if needed; they can be tinted and treated to block UV. You could easily make a case for the need for some form of protection even when riding indoors as although the risks are less the presence of dust, bugs and other irritants are still there.

Allergies from airborne irritants are difficult to avoid and the typical maddening itchy and puffy eyes can be distracting in the extreme. There are a variety of eye drops that can be obtained for use in acute attacks as well as others that can be safely used over the entire allergy season to give you season round protection.

In concluding this brief trip through the visual world of the rider I'd like to make some last points. There are eye conditions that affect vision that the sufferer is totally unaware of until they have reached an advanced stage. A condition known as glaucoma affect 2% of the population over 45 years old, has no symptoms of pain, no loss of clarity of vision and is undetectable by the sufferer in the early years. The progress is slow and inexorable if untreated and produces a slow loss of vision in the far peripheral edges of your visual field, gradually creeping further and further centrally until after many years untreated the person is left effectively blind with only tunnel vision remaining. Even at a relatively early stage the signs may go unnoticed but the types of things that can occur in the case of a rider with the condition is to be struck by unseen overhanging branches, to bump into side obstacles unnoticed or to knock things over to their side when moving. This condition and many others do not initially produce any loss of clear vision and thus go undetected for years. There is generally a poor understanding of the need to have regular eye tests. When there is nothing apparently amiss and we feel that our sight is perfect it is then natural to assume everything regarding our eyes is also perfect, but sadly sometimes nothing could be further from the truth.

Lastly the other area I would make brief mention of is the benefit of contact lenses for some riders who find their prescription spectacles limiting when riding. This is a whole new area for discussion, and I mention it simply to inform that the majority of people can be fitted with contact lenses and that it presents yet another option for best vision when riding.

I hope I have provided you with some useful information on some of the complexities involved with vision and riding and made you mindful of the steps you can take to improve your visual welfare and the increase the enjoyment you gain from riding.

All views expressed are the personnel view of the author and do not represent medical or ocular health recommendations for any specific individual in lieu of having a thorough examination by an Optometrist or Ophthalmologist. Should you have any concerns regarding your vision you should visit an eye health practitioner.

