Safe Positioning of a Camera for Riding - What you should consider
(With thanks to Emma McClean BSc(Hons) RN)

Whilst I would not dispute that it is now a real need to have some form of video capture equipment when riding out on the road, I would like people to strongly consider where they mount such a camera, without just following fashion.

I have been in contact with two major riding hat manufacturers to seek their advice on mounting cameras on riding hats, and have combined this with my own 20+ years of trauma nursing experience to provide some points for consideration.

“Blunt trauma produces injury by transferring energy through acceleration forces to the victim (usually from motor vehicles or falls). The pattern and severity of injury are determined by the magnitude and orientation of the acceleration change to the victim’s anatomy.”


Your riding hat is designed to dissipate the energy around the shell of the hat, thus reducing the energy transfer (and therefore potential for injury) to your skull and brain.

Fixing anything to your riding hat will alter how the energy is dissipated.

Using adhesives or screws to fix anything to your riding hat can inhibit the ability of the riding hat to dissipate the energy by altering the construction.

There is no current test within the safety standards to look at how mounting a camera on your hat could affect it in an impact.

The next point to consider is the alteration of ‘head shape’ caused by a hat mounted camera. Our heads are shaped so that in a fall with rotational movement our heads will roll. Consider how easy it is to roll a football compared to a rugby ball end to end. An object which prevents the roll of the head will increase the amount of energy transferred to the body. This rotational energy increases the risk of a diffuse axonal brain injury, which at worse can result in brain death, and at best a wide range of neurological damage. It can also increase the risk of spinal cord damage from the same increased rotation.

The fit of a hat is due to its shape and the harness. These work in unison to ensure a secure fit, avoiding slippage in the case of a fall, without the need to be excessively tight. Adding weight at one point on the surface of the hat could disrupt the balance and fit of the hat, potentially leading to slipping or tipping of the hat.

Well done if you’ve made it this far through the post, but the facts should be considered. I have spent some time contemplating whether I should write this or not but I feel compelled to. After 20 years as a front line trauma nurse, and now working within the field of rehabilitation, I feel I have a responsibility to ensure people are making choices for safety based on fact not fashion.

I wear a Contour Roam 2 when hacking out. I wear it just below the top of my boot. It captures the information which may be required if anything bad was to happen. And I risk a minor leg fracture. I can live with that, but I don’t want a brain injury!

We buy riding hats to protect our heads when riding, why would you then risk altering how it is designed to work? Would you tamper with the seat belts in your car?
Questions received:

I use a hatcam on a band around my hat will this have the same effect?

There are 2 points to consider here. Firstly the weight of the camera may in itself pull the hat slightly in that direction, thus altering the fit.
During a fall the velocity of movement can increase the weight, thus causing the hat to slip further, and not be sitting adequately over the areas that it was designed to.
Secondly, if the strap is stable enough to keep the camera in place when trotting, cantering and jumping, it is more likely that it will stay in place during a fall. The hat strap that came with my camera had the wiggly grippy lines on it. This combined with the textured surface of my skull style hat meant the strap was not going to budge.

Is a chest mounted camera safe?

When we fall forwards our instinct is to put our arms out to break the fall. This reduces the energy transmitted to our face and chest, but can lead to broken arms, which generally mend ok. Our sternum and ribs are there to protect our heart and lungs and are well sprung to aid in doing this. Based on the above I would think your chances of serious injury from a chest mounted camera are relatively low. You may have to experiment with this type of placement to see if you capture the images you want on the camera.

Could I mount a camera on my arm?

I’m sure you could. If you are mounting a camera on your arm try and have it in the middle of your upper arm, or the middle of your forearm i.e. avoid the joints. If you were to fall fractures in the middle of your arm bones heal well. Again you might have to experiment with the quality of footage you get from an arm mounted camera, as there could be a lot of movement.

How do you secure your camera?

I was inspired by the placement when I found an old mobile phone holder in a drawer. If you don’t remember they were neoprene holders we strapped round our legs to hold our Nokias! I bought a kit of mounts for my camera, and I am using two straps (as 1 is not long enough) designed to fasten to handle bars or ski poles. I have joined them together with a bit of elastic. They then attach to a camera mount (again for handle bar use) which swivels and locks.

Insurance

If you did make a claim for injury following an incident any alteration to personal protective equipment (or omission to use it) would likely render you partially liable for your injuries. This would affect any monies awarded.

Thank you again, stay safe.