



Safety in Eventing: What will the 2009 season bring?

By Anne Bondi BHSI

2008 was a difficult year for eventing: in the spotlight both for Olympic success, and for the latest fatalities in rotational falls. Having personally experienced the classic rotational fall, I feel very lucky to be alive. None of us believe we are going to be injured when we leave the start box, otherwise we would not do it. We all accept there is risk, but have confidence in our own and our horse's ability to react to the questions.

• **How is the sport perceived by those outside it?**

Eventing has evolved over the years, but in terms of welfare and safety it has to keep pace with the developed world's ideas of what is acceptable.

After 2 horses died on the cross country at Boekelo 3 day Event in 1997, the Dutch government considered banning eventing.

Princess Haya, FEI President and member of the International Olympic Committee has said that "There is no guarantee that horse sports can survive in the Olympics beyond 2012 – or even get that far. We have a huge fight to even get to London 2012."

Anyone who thinks that equestrian sports are secure for London is mistaken. The IOC has very reasonable and legitimate concerns about eventing safety. Walking away and saying "Thank God nobody died," isn't good enough."

Presenter Clare Balding has worked at four Olympic Games and believes that the safety issue in eventing is key to public opinion. "This risk needs to be minimised otherwise we'll be out of the games. We have to move with the times and make the sport more palatable."

• **What are the statistics?**

Whilst the efforts that are now being made to make the sport safer are commendable, there has little effect on fall statistics. In the UK there has been:

- 1 death in rotational falls in 2008
- 15 deaths in last 2 years
- 23 deaths in last 25 years

In one year there were:

- 1,873 falls
- 55 rotational falls
- 17 serious injuries in rotational falls

Internationally, there have been 11 fatal accidents in 13 months.

• **What are the risk factors involved in falls?**

In 2004, a large independent study into the risk factors for horse falls revealed that a number of course, obstacle and rider variables were significantly and independently associated with the risk of falling:

- obstacles sited downhill
- obstacles with ditches in front
- increasing numbers of obstacles
- jumping efforts later in the course
- amateur riders (20% more likely to fall than professionals)

It was also found that:

- ascending spread fences give a four fold *reduction* in risk
- combination fences may *decrease* risk

- **How influential is course design?**

Rider skills have improved, the technicality of tracks has increased and there are many more completions nowadays than there used to be, but course designers still feel that they have to over-compensate for riders' lack of education. The idea of a filter fence early in the course to test rider skill has so far been rejected.

Falls can happen at all speeds, but an increase in clusters of fences to improve spectator viewing has caused riders to go slower in combinations and faster between fences, or over single fences.

Although not scientifically supported, riders have called for accuracy combination fences to be kept in a straight line for safety as they believe that slowing and turning are contributing factors in falls.

Fences used to be made from spindly rails which broke easily and regularly and were in effect, frangible, but they have become progressively more solid. This effort to be safer may have been counterproductive and deformable fences are now being encouraged.

There is a gulf in terms of course safety between the UK and the rest of the world. There are frequent reports of substandard, poorly designed or unsafe courses at overseas events which may be attributed partly to lack of funding, but also to an apathetic attitude from some national federations to training in construction and design skills.

- **Can rules prevent accidents?**

There is current debate concerning remounting after a fall.

Officials have the power to award penalties or stop a competitor on the course but this is rarely, if ever, used. BE uses a unique "heads up" informal system of spotters who log incidents in order to keep riders under review. This is also done for horses that are considered to be lacking education or are unsafe.

A new FEI system to monitor falls and dangerous riding will be the first step towards mandatory rider licensing.

Although the idea of licensing is generally acceptable to riders, it is felt that the current qualification system is virtually a licence in itself.

This year, all FEI qualifying results must include a clear cross country round, where previously a stop was allowed.

- **Can training and experience eliminate error?**

It has been suggested that some riders who experience falls are competing beyond their ability, but many of the fatalities have been well qualified, experienced, successful riders.

Most serious accidents occur at one and two star level, but this is statistically because there are more starters at that level - *the percentage of falls goes up at higher levels.*

Christopher Bartle FBHS, German team trainer and Badminton winner, says "Even the most experienced riders can make a mistake in terms of preparation coming into a fence. A horse at any level of experience can, similarly, make a mistake that can lead to a fall."

Mark Phillips maintains that the common denominator of fatal falls is that the rider has "missed", but there is evidence to the contrary. He also believes that "nanny" classes at lower levels allow riders to get away with doing nothing; horses progress to a level where effective riding becomes key because the horse can no longer get the rider out of trouble.

There has been discussion of rider registration with an accredited trainer and certification before competition.

Can learning how to fall save lives?

Although not supported by leading riders, Christopher Bartle believes that "By developing a reflex to roll with a fall and get out of the way, numerous lives could be saved" and wants tuck and roll training to become part of mandatory training.

However, he admits that "Tuck and roll won't help every rider in every circumstance. There will be times when there is simply nothing the rider can do to change their fate."

I know that I only had time to understand what was *going* to happen. In a rotational fall, there is no question of throwing yourself clear or rolling into a ball because the force of the horse drives you down under it.

- **Can lameness cause a fall?**

One of the most common causes of a fall is when the horses "puts down again" or "chips in a short one".

A horse working in a degree of pain or discomfort will often do this, either through a weakness rendering it impossible for him to lengthen normally to a fence, or through a lack of concentration or confidence. Anticipation of pain on landing will also cause a horse to back off.

After any fall, a rider has to be seen by a doctor, who may force a riding ban, but there are no mandatory follow up checks carried out on horses.

- **Can saddle design increase the risk of falls and the severity of injury?**

No mention has ever before been made of the impact of the *saddle* in rider injuries – there are no statistics recorded to analyse this. The rider is unlikely to be thrown out of the saddle impact area, but this is not being analysed. Research into safer saddle design and construction should be considered a priority to help protect the rider – and the horse. A standard (e.g. EU or kite mark) should be considered for saddle design and construction.



Photo Kit Houghton

In my case, although the horse landed on me, it was the saddle cantle that crushed my pelvis. I survived because the saddle was flexible, a conventional rigid treed model

which would undoubtedly have caused greater damage.

Conventional saddles contain a solid steel frame – the pommel arch impacts like a hammer, the cantle like an axe when falling on a rider.

Flatter saddles and shorter stirrups are believed to make it easier for the rider to be thrown clear, but this is not substantiated by fact, and would have no influence in a *rotational* fall.

In 2000, the Hartington Committee report pointed out the possible danger of using knee blocks or padding on the saddle, behind the rider's leg.

It was recommended that should study of the effect of saddle types in accidents but there has been no progress.

The FEI Safety Forum, January 2008 highlighted a need for education of riders in the use of saddles.

But how is this to be implemented and what are the objectives?

- **Can one type of horse be safer than another?**

There has been debate concerning the type of horse used and concern has been expressed that horses bred for dressage may not be reliable jumpers suited to eventing.

In the dressage world, a brilliant moving dressage horse is not usually thought to also have a sharp brain.

Jack le Goff, former US trainer, believed that highly trained dressage horses lost their initiative cross country.

However there is no evidence that rider deaths are the result of horses more suited to dressage.

Most trainers believe that good training produces a better partnership.

- **Could the collection, analysis and application of current data be improved?**

BE has a huge database that includes all horse and rider falls.

The FEI database is working to improve national data collection but some countries fail to return reports.

- **Are current investigative methods effective?**

The current BE accident report form does not require detail of what injured the rider, only how or why the fall happened. It is completed by volunteer jump judges who may not have any specific equestrian knowledge, with no rider or witness statements included.

Photos, video evidence and eye witness reports are usually available at any event, from spectators and professionals and appeals for information following an accident could easily be made.

- **Is research providing answers?**

The Hartington Committee report, which was produced after 5 fatalities in 1999, concluded that everything should be done to prevent horses from falling.

The Transport Research Laboratory investigations have shown that rotational falls happen when a horse hits a fixed obstacle between the knee and elbow. Below this point, the horse is able to scramble over, above and the horse remains behind the fence with the rider still seated, or ejected over the fence.

The development of the frangible pin has so far, seemed to be the only way of protecting the rider when things go wrong, but the pins are costly and little seen outside the UK. However, there is debate about whether pins may cause the horse to be in contact with the fence for longer, thus contribute to a fall.

In 2008, a study into the forces exerted when a horse hits a fence was carried out using data collected from a test fence fitted with sensors and a high speed video camera.

Work is currently being done on the development of deformable fences. Since 2002, the Netherlands has only used breakable fences in national competitions and no fatal accidents have occurred.

The newly formed *Saddle Performance Assessment Group* in partnership with *Solution Saddles* is carrying out a broad ranging scientific investigation to assess the influence of saddles on horse welfare, performance and safety. There is evidence that saddles can cause physiological and psychological damage, with different designs causing different types and degrees of damage. In the case of horse falls, there is not only escalation of the severity of injury to the horse, but also to the rider if crushed by the saddle.

This project promises to be the widest ranging multi-disciplinary research ever carried out in this important area, involving collaboration with a diverse range of leading scientists in their field ...and with the potential to benefit not just elite sport horses, but every riding horse.

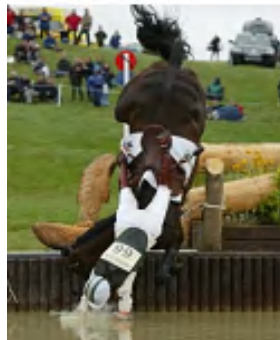


Photo: Ian Shaw