EVENTING RISK MANAGEMENT SEMINAR
Madrid (ESP), 24-25 January 2015

REPORT

24 Eventing National Safety Officers (NSOs) and NF Representatives from 20 NFs (AUS, AUT, BEL, BRA, CAN, CZE, DEN, ESP, FIN, FRA, GER, IRL, ITA, JPN, NED, NOR, POL, POR, SWE, USA – (see participants list annex I) met in Madrid (ESP) for the 8th Annual Eventing Risk Management Seminar.

RECOMMENDATIONS & CONCLUSIONS of the 2015 Eventing Risk management Seminar

1. NSO Seminar: Considering the value appreciated by the participants it was suggested to organise for the 2016 seminar a web-based conference system/webinar system to allow more remote National Federations to participate.

2. INTERNATIONAL STATISTICS CONCLUSIONS:
   - The growth of the sport was emphasized: number of competitions increase from 369 (in 2005) to 619 in 2014 (95% increase); number of starters 11’650 (in 2004) to 19’210 in 2014 (65% increase)
   - A common opinion on the level of acceptable risk needed to be identified and agreed to by all involved in the sport.
   - The reduction of number of falls has resulted in an unwanted consequence of rider’s injuries being more important as they do not know HOW to fall any longer.
   - It was agreed that concentrating on studying horse falls was priority rather than rider falls.

3. NATIONAL STATISTICS CONCLUSIONS:
   - The collection of National statistics has notably improved.
   - FEI level of falls remained higher than National level of falls and reasons are difficult to define (psychological pressure of qualification achievement?)

4. ENHANCEMENT AND DEVELOPMENT OF INTERNATIONAL STATISTICS
   - The data collection was in place with 10 years of consistent data – the data needed now to be analyzed to produce meaningful statistics
   - to produce statistics relevant questions and factors that might affect the risk needed to be identified. This would allow setting up specific queries and monitoring the information/trends. Yearly updates would allow support with the decisions of the sport.

5. FRANGIBLE / DEFORMABLE FENCES – 21 PENALTIES
   - As of 2015, 21 penalties automatically given for breaking a frangible / deformable device
   - Explanation of the rules to Course Designers, Technical Delegates, Ground Juries, Fence Judges and Riders needed to be made through the Course Directors, NSOs, Eventing Committee.
   - The use of frangible / deformable devices remains the choice of the Organizer and Course Designer

6. MEDICAL UPDATE – CONCUSSION – ARMBAND – MEDICAL INFORMATION
   - Fitness to compete remains the responsibility of the athletes
- Guidelines for concussion would be posted on the medical page of the FEI website by the Medical Committee
- The new procedure for Medical information at events with riders with Medical conditions needs to be promoted by all Federations for better awareness.

7. INDOOR CROSS COUNTRY
- FEI Guidelines on Indoor/arena Cross Country published on the FEI website were useful and appreciated
- Adding a limitation on the amount of prize money was proposed – to not push the riders out of their limits.

8. 2016 EVENTING NSO SEMINAR, Suggested dates: 30-31 January 2016, possible locations included Brussels (BEL) or FEI Headquarters in Lausanne.

AGENDA – 2014 FEI EVENTING RISK MANAGEMENT SEMINAR

<table>
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UPDATE, FACT AND FIGURES

3. Enhancement & development of International Statistics and data mining
4. Update on frangible / deformable device
5. Analysis of risk factors for horse falls in the cross country phase of British Eventing one day events
6. Miscellaneous
7. Feedback from participants and recommendations for next seminar
8. 2016 NSO Seminar

NATIONAL FEDERATIONS PRESENTATIONS

9. National Federations Presentations

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| 9.5 | CZE presentation (Verbal presentation) | |
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| 9.11 | IRL presentation | Annex XIII |
| 9.12 | ITA presentation | Annex XIV |
| 9.13 | JPN presentation (Verbal presentation) | |
| 9.14 | NED presentation (presentation I) | Annex XV |
| 9.15 | NED presentation (presentation II) | Annex XVI |
Mr Pedro Rey Eventing Director of the Spanish Equestrian Federation, opened the meeting and welcomed each participant on behalf of the Spanish Equestrian Federation. The value of this seminar was emphasised to discuss all matters related to Eventing.

The Chair of the Eventing Committee thanked the Spanish Federation on behalf of the FEI and welcomed all participants to this seminar which was the 8th edition.

Mr Charles Barnett was introduced to the participants. During the 2014 Eventing Risk Management Seminar it was agreed that an external audit should be done to move forward with the Risk Management of the Eventing sport and enable a different view on what was being done. The task would now also involve the evaluation of Eventing to better fulfil the requirements to remain in the Olympic program.

Mrs Heather Cameron Whytock was also introduced as a guest to present on her work regarding “Analysis of risk factors for horse falls in the cross-country phase of British Eventing one day events”.

### 1. REVIEW OF INTERNATIONAL STATISTICS - presentation G. Della Chiesa

The Chair stated that 2014 was the first year that it was possible to disregard one year (2004 figures) of statistics and **from now on the statistics would include a 10 year period.**

**Competition numbers:** The sport was growing, overall number of competitions had increased from 369 in 2005 to 619 in 2014 which was a 68% increase. When divided by levels, the number of four star competitions were stable, the 3 other levels supported the increase over the years.

In 2014, out of 619 competitions, all competitions have eventually been processed in the database and included in the final report.

**Number of Starters:** The number of starters showed the same trend of increase, from 12’542 in 2005 to 19’210 in 2014 (53% increase). In 2014, 50% of starters were at One Star level, 83% of starters were at One and Two Star level, 15,4% of starters were at Three Star level. Only 2,1 % of starters were at 4 Star level. It was important to bear in mind that the pinnacle of the sport only represented 2 %.

It was important to attract new nations to Eventing to enable the growth of the discipline however the support of National Federations, trainers, riders, etc to integrate the risk part of the sport and the right level of expertise was needed.

**Number of Falls:** Falls were examined as a percentage of starters, the risk that every rider had in starting a competition was of 5,59% as an average for 2014, lower than the
average of 6,59 % in 2005. One Star level was at 4,91 %, Two Star level at 5,23 %, Three Star at 7,20 % and Four Star level at 15,58 %. The unseated riders involved the lowest level of serious injuries and rotational falls the highest level of serious injuries.

Total horse falls in 2014 was the average of 1,61 % of starters, the number of rotational horse falls had reduced from 0,45 % in 2005 to 0,20 % in 2014. The risk of a rotational fall was 1 fall every 220 starters in 2005 and 1 fall every 500 starters in 2014.

It was important that a common view on the level of risk deemed acceptable be found and agreed to by all involved. The athletes were aware and accepted the risk, (shown by the increase of starters). The level of risk was recognized by insiders of the sport, however it had also to be endorsed by the outside world.

One of the unwanted issues of reducing the number of falls was that the riders did not know how to fall anymore and as a consequence injured themselves more.

Falls and injuries were examined, the total number of falls in absolute values had increased from 826 in 2005 to 1051 in 2014 whilst the values of slight injuries were of 97 in 2005 and 55 in 2014, for serious injuries it was 35 in 2005 and 31 in 2014 which showed a decrease of the number of injuries.

Air Jackets: The air jacket figures showed that it was difficult to evaluate whether the air jacket was reducing the serious injuries as the trends showed contradictory values for 2013 and 2014 where 30 % of serious injuries occurred with air jacket in 2013 and 71 % in 2014.

NSOs commented on collection of data in regard to use of air jackets: USA did not collect statistics, Germany had a subjective question in the fall report for the TD and Fence Judge to comment whether, in their opinion the air jacket made the injuries worse, all answers were that it didn’t make it worse. In 2015, rider would be asked to include a comment as well.

Falls versus categorisation: The falls were also divided by athletes category (as a percentage of athletes), showing that at One Star level 5,64 % were not categorised, 3,98 % were D category, 3,85 % were C category 1,87 % were B category and 0,56 % were A category.

Two Star level 6,77 % were not categorised, 4,86 % were D category, 4,31 % were C category 3,66 % were B category and 2,21% were A category.

Three Star level 11,50 % were not categorised, 10,30 % were D category, 7,02 % were C category 6,07 % were B category and 4,21 % were A category.

Four Star level 0,0 % were not categorised, 41,67 % were D category, 15,91 % were C category 16,41 % were B category and 12,94 % were A category.
2. REVIEW OF NATIONAL STATISTICS – BENCHMARKING  - G. Della Chiesa

The data collected from National Federations showed the diversity between the NFs. 4’800 competitions were organized in France at all levels, 2’300 competitions held in GBR compared to 614 International competitions processed by the FEI.

A table (I) showing countries with more than 500 competitions, less than 500 competitions and less than 100 competitions all showed consistent figures compared to previous years.

The categorisation of athletes consists of an 8 year rolling period. Non categorised athletes require more events to reach qualification as a combination than a categorised rider.
Table II shows the number of starters divided by NFs with more than 10’000 starters, more than 1’000 starters, less than 1’000 starters.
Rider Falls showed that the FEI level of falls was 5.56%, which was above any national fall levels where the average was approximately 2.5%. Falls per level as a percentage of starters showed that national level was massively under the international level with 4.9%.
for One Star competition. This area needed to be addressed by ensuring that the riders entering the One Star level were competent.

Horse falls showed the reverse trend of falls at the national level versus the percentage of starters. GBR came out with a higher level of 0.39 \% opposed to 0.19 \% for Germany, 0.10 \% for USA, 0.17 \% for France and 0.21 \% for Australia. The FEI level was 1.61 \% which was much higher.

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The NED NSO questioned whether the qualification system was good enough at international level. **It was agreed that a review of the FEI qualification system needed to be reviewed.**

It had been experienced that the same event holding a national class and international class had a higher rate of falls on the international class without any identified reason.

### 3. ENHANCEMENT AND DEVELOPMENT OF INTERNATIONAL STATISTICS AND DATA MINING – Dominique Maes

The data collection was the first step to be followed by the analysis split in two parts: falls and results.

The analysis needed to include the factors that on their own or as a combination were correlated with good results, eliminations, refusals, horse falls and unseated riders. The parameters to be defined included, horse age, rider age, barely qualified etc....

The relevant parameters and factors that might affect the risk and be influential of the fall needed to be defined. The data file was huge 161,000 rows and 650 columns, and needed to be split to allow a yearly analysis.

The profile of rider included age, number of different horses ridden, number of starts at different star levels and number of MERs at different star levels. The same information was collected for the horses. The profile of the competition was done by using the type (CCI/CIC), star level, show jumping before XC, speed and distance. The results profile included penalties in Dressage, in Cross Country the penalties and **reasons for not finishing** (rider fall, horse fall, refusals, retired etc.) and also penalties in Show Jumping.
The first step was a fall analysis by grouping the competitions by CCIs and star level and CICs and star level but also the Championships by different level.

Horse falls for CCIs showed the percentage of falls increased with the level of competition. For CICs the percentage was lower especially at Three Star level.

The Championships competitions showed a percentage of horse falls 3 times higher at Championships than the same level at CCI. This needed further study.

Falls and type of fences were examined to establish whether certain type of fences caused more falls. Certain fence types came out more than others however, the number of times the type of fence was jumped had to be counted as well. In total 912 falls were related to fences, 75% were unseated riders and 25% were horse falls.

Where on the course the falls occurred was looked at (fence number), and for One, Two and Three Star the falls were spread over the course. For Four star, falls seem to occur more at the end of the course but this trend need to be verified and compared with other years to draw conclusions.

Interesting questions to be identified to perform a meaningful analysis as follows:

A. The relation between falls and ground conditions was not conclusive.

B. The profile of falls were studied and divided in 5 categories of falls distinguished using the following combined factors:

1. High injury level, horse did not refuse, hit the fence and in most cases somersaulted
2. Horse going too fast, out of control or too slow and distracted
3. Fence combination, fence related to water without a ground line and horse going too fast
4. Low injury level, Fence off a bend, horse refused, inexperienced rider and horse too slow
5. Fence not a portable, not off a bend and horse broke the fence

The data of the previous years to try to determine if these categories remained identical and could then be linked to horse, rider profiles, etc.

C. The TD and Course Designers performances were studied using the number of starters linked to the number of clear Cross Country rounds, number of falls (rider unseated and horse falls).

D. Analyzing the scores of Dressage and Show Jumping was also done, to determine whether good Dressage and Show Jumping performances produced better Cross Country rounds. More analysis was needed to provide meaningful results.

E. The rider and horse profiles to be defined to include, the number of starts at each CCI, CIC and CHs by level, number of MERs at each level, number of different horses ridden, age of athlete, age of horse, etc...

Agreeing on the parameters to include in the queries was important, the nationality, the athlete category, the gender, etc.

F. A gender analysis was performed and it suggested that men were more competitive than women.

4. UPDATE OF FRANGIBLE / DEFORMABLE DEVICES

The Chair gave an update on the updated rule on frangible and deformable devices regarding the use of 21 penalties which was automatically given to each athlete breaking a frangible obstacle/device. This penalty could be removed by the Ground Jury in the case of a clear failure of the mechanism.
The certification process applying to frangible and deformable devices had been developed by the FEI in consultation with the several National Federations. As from 1 January 2013, obstacles could be provided with frangible/deformable technology, as long as it had been approved by the FEI according to the certified standard.

The principle was not a standard of safety but a standard of strength and repeatability. It was not to be more dangerous than a traditional fence and was to perform in the same way for all riders.

Two devices were currently approved, the British Pin and the MIM Clip & Pin.

The function of the traditional pin as to the principles of the mechanism was explained. A second generation of pins, the reverse pin was introduced, which was the same system but used in a different manner which gave away more easily.
The third mechanism was the MIM post and rail kit which triggered with a horizontal force, an opposite principle to the traditional pin or reverse pin.

A new generation mechanism was currently being develop by MIM to apply to tables and corners.

These mechanisms had all been approved as they passed the “rotten log” test and were not more dangerous than a traditional fence.

The issue with the pin was when it was hit with the back legs it weakened the pin and activated when it should not.

It was the general opinion that a horse hitting and breaking a frangible fence should not be winning a competition or getting a qualification (MER).

It was felt that the focus should be on building the right fence in the right place rather than using frangible fences.

5. ANALYSIS OF RISK FACTORS FOR HORSE FALLS IN THE CROSS COUNTRY PHASE OF BRITISH EVENTING ONE DAY EVENTS

Heather Cameron Whytock gave a presentation on the analysis of risk factor for horse falls in the cross country phase.

Her background included riding and competing in Eventing, studying Equine Management as well as doing a degree in Equine Science and Physiology. The dissertation was done on the title of this research which was then entered in the International Society for Equitation Science (ISES) conference and it was accepted. It was presented in August 2014 in Copenhagen (DEN) which led to positive feedback.

Further to the previous year’s two rider fatalities it was felt that more work had to be done taking public opinion as well as the animal welfare in consideration.

Horse falls was defined by British Eventing by “both the horses shoulder and its quarters going to contact with either the ground or the obstacle and the ground simultaneously”.

There was 36% risk of a serious/fatal outcome to a rider that was involved in a horse fall and 32% risk of injury to a horse involved in a horse fall.
A few factors identified as a risk of horse fall included style and position of the fence (in particular downhill slope) ground condition (too hard or too soft) speed of approach (too fast or too slow), fatigue, etc.

The aims of the study were to analyze whether the level of competition, horse age, horse gender, rider gender, position before XC, month and year of competition, and the event were factors contributing to the risk of a horse fall.

In addition, the public and riders’ opinion on which factors were thought to have caused the horse fall.

The objectives were to collect substantial data regarding the occurrence of horse falls, model the relationship between factors identified and probability of horse fall and to establish public opinion of what increased the risk of a horse fall.

Factors measured were performed on Novice, Intermediate and Advanced levels chosen because of the necessary qualifications. All competitions recorded held the show jumping before cross country.

To measure the position of the combination before the Cross Country, the method used to reduce variability was by grouping the positions by using the points awarded for each level, 1st, 2nd and 3rd were grouped as group 1, positions 4th to 10th were group 2, then groups were done for every ten positions.

A questionnaire was sent out on social media to many riders, the questions included, do you own a horse, do you compete, do you watch British Eventing, have you witnessed a horse fall, what was the outcome, what do you think happened, what could be done to reduce horse falls.

In the results of the data collection, the significant evidence was the position of the combination before the Cross Country. Group 1 was more likely to fall than any of the other groups.

The questionnaire responses showed that 74,05% stated the main risk factor for a horse fall was rider error, 64.88% stated the main risk factor as rider inexperience and speed also identified as a key risk by respondents. Riders were significantly more likely to attribute horse falls to rider error than spectators.

The numbers used in the study were minimal and could provide better data if run on a bigger dataset. British Eventing had offered their data to expand the study further.

The future of the study included the publication in a journal.

Rob Stevenson (CAN) asked whether other sports were looked at such as ski, etc. It was answered that the correlation between falls and risk factors in other sports had not been studied.

A total of 96 falls had been included in the study was the answer to a question of Dominique Maes (BEL).

Further to a question from Teun Platenkamp (NED) on covering for the level of competition, it was mentioned that a specific level was not referred to.

It was stated that the questionnaire had been sent out via twitter to certain riders which forwarded it to others to answer a question of Peter Whitehead (GBR).

6. MISCELLANEOUS

Update on the helmet cameras

Peter Whitehead (GBR) gave an update on the use of helmet cameras. A rule stated that helmets had to be of certain standards, and attaching anything to the helmet implied that
it no longer complied with the standard. Allan Sills from the Medical Committee had stated that the helmet was a safety device and nothing should interfere with it.

If there was a demand, manufacturers could make helmets with cameras incorporated in the helmet according to standard.

A solution could be to attach the camera to the helmet by a easily detachable system (I.g. Velcro).

**Fixed peaks on helmets**

Peter Whitehead (GBR) mentioned that British Eventing was looking at the increasing use of fixed peaks on helmets, Transport Research Laboratory (TRL) would be asked to look into this.

**Note:** since British Eventing have issued a new rule banning helmets with fixed peaks to be worn in the XC Test of BE affiliated events.

**4 Star Level competitions**

The Chair of Eventing presented the discussions that were taking place with the Committee on the top level of the sport. On one side Eventing was an Olympic sport where the number of nations was important and on the other side, the 4 Star level competitions (Classics) were very traditional and successful different league from the level of where the general Olympic sport was positioned. The complexity was to encourage the development of the sport of both tracks.

Could the elite of the sport be defined for the Olympic Games and World Championships at 3 star level and develop a separate circuit of 4 star competitions as “Iron man”.

This would allow the Professional league/Classics to live without necessarily be connected with the Olympic Games.

The three star level would be more achievable by more riders of different countries.

For the present-day Olympic Games and World Championships the qualification was an issue as riders needed to reach their MERs at a level below where they were required to compete (3 Star level NER for 4 Star Championship).

Roger Haller (USA) felt that there might be other reasons linked to the number of falls at 4 star competitions (not only distance and qualifications).

Gillian Rolton suggested that an upgrade of the current 4 star (Classics) category to 5 stars could help identify this category and keep the Olympic Games and World Equestrian Games at 4 star.

The Director of the Eventing & Olympic Department mentioned that the IOC clearly required that the highest level of the sport needed to be presented at the Olympic Games.

This discussion was certainly work in progress.

## 7. FEEDBACK FROM PARTICIPANTS AND RECOMMENDATIONS FOR NEXT SEMINAR

The Director of the Eventing & Olympic Department thanked all the participants for their attendance and huge input in the seminar – the information shared and discussions raised were invaluable for the setting the priorities of the Risk management program. It was questioned whether this meeting corresponded to what was expected.

It was agreed that the period of the year to hold the meeting was adequate and the seminar structure was good. The update of the Eventing Chair and the presentations given by each NSO provided valuable information.
It was suggested that webinars could be organised for the next seminar to allow the participation of a larger group of participants from smaller nations to reduce travel costs.

Roger Haller (USA) felt that not enough focus was given on the statistics the seminar this year. It was answered that the all reports and statistics details were available on the FEI website, and it was that this request could be mentioned when the agenda of the meeting was sent around for input.

The Chair mentioned that for International and National Statistics the intention in future was to give more attention to horse falls as these had the most influence.

Charles Barnett (FEI Eventing Audit) congratulated all the Delegates for the high level of discussion of the seminar and the in-depth handling of the subjects raised in relation to the risk management of the sport.

Teun Platenkamp (NED) it would be good to obtain the subject of the working groups well in advance preferably by the of November.

### 8. 2016 NSO SEMINAR

The dates suggested were **30-31 January 2016**. Possible locations included Brussels (BEL) and FEI HQ Lausanne or Brazil.

In 2017 an invitation from the CAN NSO for holding the meeting in Bromont.
9. NATIONAL FEDERATIONS PRESENTATIONS

9.1 AUS NSO – Bob Powles

National statistics from Australia were presented. These showed a continuous growth of starters and competitions.

Riders falls equated to 1:36 ratio which was an increase from last year from 1:45 rider ratio, the possible explanation could be less reports were received than the actual amount.

Horse falls remained comparatively low with only 3 rotational falls recorded.

There was an increased confidence in the quality of the reports received including the medical reports.

9.2 AUT NSO – Katrin Eichinger Kniely

In Austria, a Seminar for National Judges and Trainers was organised in 2014 for the first time. The National and International Statistics as well as the DVD “Vision & Risk Management in Riding Cross Country” were shown to the participants and it was very helpful to raise awareness.

Another seminar was scheduled for March 2015.

The 2014 National Statistics showed an increase of the number of starters going from 1794 for 148 competitions in 2013 to 1974 for 142 competitions in 2014.

Total number of riders falls for 2014 was 69, and 13 horse falls. The fall analysis showed that many falls occurred on the flat and not in relation to a fence. Norikers (moderately heavy Austrian draught horse breed) seemed to fall a lot although there was only 13 starters, this was probably due to the nature of the horses.

9.3 BRA NSO – Delano Miranda

For Brazil, the statistics showed that the number of starters had increased by more than 50% compared to 2013. This was due to certain regional competitions becoming national competitions. The total number of falls represented 2.1% on starters.

55 new national Eventing riders started Eventing in 2014 and 68 new horses.

Education was done through a seminar and two courses organised for Judges Technical Delegates and Course Designers. One course was held for Stewards.

The South American Championship date and venue had been changed. The change of date allowed more nations to qualify. The change of venue caused a 4000 km road trip for the Chilean horses, as flying the horses was too expensive. There was also problems with the sponsors.

During the Championship, 4 countries qualified for the Toronto Pan American Games which was a great success.

9.4 CAN NSO – Rob Stevenson

Canada NSO reported that in 2014 the risk versus performance had been studied. “Throughout our lives risks were taken”.

The question was asked if the risk management in Eventing was about safety or high performance. It was important to be aware how sponsors and public opinion perceived the sport. A big debate was ongoing in Canada including sports such as Hockey and Football were also seen as violent or dangerous.
Active Risk Management actions included good training which helped to reduce the risk. Peter Gray, former NSO for Canada, had launched a safety riding video used to promote good riding considering high performance as acceptable risk as opposed to low performance as unacceptable risk.

In competition, it was thought that the greater risk was falls on Cross Country however, many other risks were taken from the moment the horse left the stables, was loaded in the horse box and travelled on the motorway, etc...

The Statistics in Canada showed that out of 6'157 starters, of 258 falls, approximately 25% on warm up, which was a clear message for coaches to supervise the warm up. Air vests were worn in 53 falls (29%) and activated in 72% of cases.

National concussion guidelines had been implemented following International Guidelines. These included that no athlete with concussion symptoms was allowed to return to play on the same day. Helmets were made compulsory in Equestrian sports, but clearly communicated that helmets did not protect against concussion.

As a cardiologist, Rob Stevenson had participated in the USEA Cardiopulmonary study headed by Catherine Kohn on the Equestrian deaths in Eventing. Of the study, two thirds of deaths were due to traumatic injury, a quarter were caused by internal haemorrhage, 10% of deaths were due to a sudden cardiac event. It was explained that horses didn’t die of heart attack, horses had arrhythmias which was a disturbance of the heart rhythm, the heart stopped and fibrillated and the horses died. This information was obtained through measuring heart rates of horses throughout the competition and not only on Cross Country. Heart rhythms were also studied during recovery phase. It was found that in recovery phase, heart disorders were discovered in some horses measured. It was suggested that defibrillators could be used on horses in the future.

Indoor Cross Country was organised in Canada where many falls happened, riders unseated and horse falls. Recommendations were set for these type of competitions including not using table type fences. The FEI guidelines were also followed and to be discussed further.

A discussion took place with Dr Frank Wilson, traffic accident re-constructionist from the University of New Brunswick to establish template would be used for accidents in Cross Country. He had suggested that test riders be used to test the XC Course, for serious falls a full report should be done by a safety team, jumping fences at an angle was a great area of concern for sense of perception, collapsible obstacles had to be right or could be more dangerous. Reasonable level of safety had to be reached.

Dr Stevenson extended the invitation to host the Eventing NSO Risk Management Seminar in Bromont, Canada in 2017.

9.5 **CZE NSO – Bohumil Rejnek**

In the Czech Republic, the categorisation of riders was being discussed. The qualifications for the lower classes were implemented. The requirements for National levels 80 cm to 1m15 were two clear Cross Country rounds and maximum two rails down before going up a level.

A new President of the National Federation was to be elected in the Czech National Federation.

9.6 **DEN NSO – Peder Rosted**

It was reported that in Denmark had had a bad experience in connection with the warm up phase before a 90 cm class. A horse stopped in front of a fence the rider flew over the fence landed on his head. The rider was examined by a doctor and seemed to be fine, he did not continue in the competition and was allowed to leave the venue. Later on it was
revealed that the rider had a fractured bone in the neck. It demonstrated that it was difficult to evaluate all injuries on site.

A good experience was also shared. It was observed through the year that officials and event organizers had shown an increased responsibility regarding safety in the sport. Accurate reporting of any cases involved on safety issues and a good follow up dialogue on the safety reports.

The majority of the reported falls were riders falls. Most occurred in the lower level competitions where the pony or horse stopped or changed direction and rider lost balance and fell off. Most of the falls did not lead to injury.

Categorisation for horses and riders had been implemented in Denmark on the national level as well as a reverse qualification system (downgrading) for more than two falls of either horse or rider within a year.

9.7 ESP NSO – Felicísimo Aguado Arroyo

For 2014, the statistics in Spain were similar to 2013 in regards to numbers with 104 competitions organised and 1467 starters. The collection of data had to improve to allow a better analysis.

The MERs were similar to the FEI requirements, the only difference was when more than one MER was requested, all MERs had to be with no penalties on XC.

A big improvement on the results reporting had been done to include the addition of the reason for elimination on XC. Reverse qualification had also been introduced and calculated directly in the database.

The level of Junior Championship qualification had been increased by adding one CNC1*.

Preventive measures needed to be improved with the education in regards to dangerous riding. The DVD was used in the seminars and was very useful, it was felt that more DVDs should be distributed as it has been very beneficial for all the participants.

Regional standards were not the same as national standards and had to be improved in regards to Risk Management awareness. The Cross Country fences in regional competitions needed to be improved.

9.8 FIN NF Representative – Kalle Nykänen

Finland had registered a big drop of starters in 2014 from 1462 in 2013 to 1350, the reasons were not known. Most of the starters were at 80cm and 90cm.

A total of 6 national competitions were organised in 2014. 48 falls were recorded and 2 rider with slight injuries, no serious injuries. It was difficult to find good venues and enough people to organise competitions.

For 2015, a total of 6 national competitions were organised.

In Kerava a level 1* course was organised for Judges, Technical Delegates and Course Designers, a total of 10 participants attended (8 from Finland, 1 from Sweden and 1 from Norway).

The number of officials in Finland was very low.

9.9 FRA NF Representative – Pierre Michelet

In France, the number of competitions had significantly increased from 4545 in 2013 to 4853 in 2014. The number of starters by level showed that the bigger increase was at 1m and 1m10. Starters at 1m20 had decreased as there was one competition less in 2014.

The overall unseated riders falls was lower however number of serious injuries increased going from 1 every 7483 starters in 2013 to 1 every 7483 starters in 2014.
It was explained that in France two types of rules were applied for risk management reasons. Competitions under 1m15 the combinations needed to finish Cross Country clear before going up a level. In the case of a refusal, the option route had to be taken, failing to do so resulted in 10 penalty points. One penalty point per second was given if finishing below the optimum time by 15 seconds or more. In the Jumping test, more than 16 penalty points incurred elimination (didn’t apply when jumping was the last test). The national competitions above 1m15 (two star and three star) followed the FEI rules.

A reverse qualification system was implemented, for all horse falls related to a fence, the combination had to return to a lower level.

Lars Christensson mentioned that in Sweden a similar rule was applied giving penalty for going too fast (more than 15 seconds) on the Cross Country.

It was questioned whether it was a rule that could be introduced in FEI levels, however, it was felt that it was more an educational matter.

9.10 GER NF Representative – Philine Ganders

Sport in Germany had great moments as well as very sad ones in the past year leading to a large interest in sharing ideas in relation to Risk Management.

The German national facts and figures were presented. The falls connected to jumping a Cross Country fence represented 93 falls out of 366 in 2013 and 74 out of 392 in 2014. Out of the 74 falls, 31 were horse falls and 16 were rider fall caused by the horse hitting the fence.

Several working groups had been working on:

1. Rules and education
   - More demanding qualification criteria for CIC1* for the less experienced combinations
   - For National competitions a compulsory debriefing after XC (with experienced riders) to be implemented to give feedback to the Organiser, TD, etc.
   - Creation of a Watch list (similar to BE). In 2014, 10 riders were on the watch list, 3 were removed during the year
   - Using former squad riders and trainers, to be trained as Judges, CD and TDs
   - 3 options were introduced for different levels of dangerous riding: elimination, 25 penalties or 10 penalties (e.g. just at the last fence)
   - Ongoing discussion concerning penalties for breaking frangible devices. At the moment no penalties were given in Germany however it was possible to sanction through dangerous riding rules. The suggestion of giving an automatic 5 penalties was being discussed.
   - Requirement of a successfully passed Cross country training before starting 90cm class
   - Creating a list of experienced XC coaches
   - Recommendation for 2015, experienced rider walking the XC course with the TD - (mixing responsibilities was a very important aspect in the sport).
   - DVD about safer XC riding by Chris Bartle was being developed
   - Education Programme for XC Controllers and TDs
   - Fall report form: rider to analyse his fall together with the TD and will fill in the form together if possible
2. Cross Country Course Design
   - Guidelines for development of frangible devices
   - New technologies workshop in Aachen University. Worked on a table fence prototype (tested in February 2015)
   - December 2014 workshop with MIM Mats Björnetun. FEI and national TDs CDs and organisers were invited
   - A new frangible system was being tested with a rope attached to a log which activated with a vertical load (video was shown)
   - Recommendation to use of as many frangible devices as sensible/possible at main XC training centres at 3 and 4 star competitions and German national competitions
   - Special request to the FEI for an uncomplicated fast track FEI certification

3. Medical & Protectors
   - Education of emergency doctors for Eventing and dedicated list for Organisers
   - Analysis of studies available and testing of airbag protectors in fall training. Checking the standard when rolling and inflation times with video (big competitiveness between the different manufacturers)
   - Recommendations issued for the correct fitting of helmets, airbag protectors, number bibs etc.
   - Financial support for small organisers with less starters to afford full emergency services
   - Production of an educational DVD for doctors and red cross personnel about Eventing risks, protectors etc.

4. Veterinary
   - Research to identify regular health tests to prevent heart failures in competition

5. Rider's fitness and tuck and roll training
   - Ongoing training scheme

The incident management guidelines for the organisers were updated/optimized.
The standard of tracks were being monitored to ensure the fences were up to standard. Events not complying with the standard were given advice by the Steward and failure to comply with the recommendations resulted in either being downgraded or not permitted a date for the next season.

Frangible pins and MIM pins were being purchased by Eventing Ireland. Events and Course builders could purchase them for 1/3 of the cost. Pins broken due to a fall were replaced free of charge.

**9.12 ITA NSO – Giacomo Della Chiesa**

The Italian initiatives for 2015 included rules changes, working project between the ITA NF and KepItalia and yearly medical control.

The FEI guidelines were adopted in regards to protective headgear. A new project was created regarding the promotion of headgear in all disciplines with a new partnership with KepItalia providing personalised head caps for all athletes.

A safety campaign was to be launched in 2015 with videos on DVDs to cover safety aspects in all disciplines before and after the competitions (including examples).

Athletes had to undergo a yearly medical control to evaluate their fitness to compete. The test included a general medical examination, spirometry, complete urine analysis and electrocardiogram at rest and after physical effort. It was questioned whether other National Federations had such programs and how the athlete’s fitness to compete was measured.

Rob Stevenson (CAN): In North America there was a great debate on the subject, it was estimated that it would cost 2 billion dollars per year to screen all athletes.

Bohumil Rejnek (CZE): Medical examination were done once a year up until 1989 after it was considered as private matter. However the athletes were insured by the National Federation and Union of Sport.

Philine Ganders (GER): It was done for all sport athletes for all levels (Pony, Juniors, Seniors).

Peter Whitehead (FEI Medical Officer): It was difficult to define “fitness to compete”. It appeared that no study showed that medical screening made any difference in the performance or risk.

The Chairman stated that on the entry forms of FEI competitions, the National Federations had to declare the athletes as fit to compete and sign the form.

**9.13 JPN NSO – Shigeru Hashimoto**

In Japan, 25 National competitions were organised including 5 at One star level.

Only 13 injured riders were recorded in 2014.

The dangerous riding DVD was used and was very useful. The Japanese National Federation suggested to expand the use of the DVD to other Asian countries.

**9.14 NED NF Representative – Gert Naber & Teun Platenkamp**

*Presentation on the Dutch pole by Gert Naber:*

After the death two horses of In Boekelo in 1998, the reaction of the public opinion had been very strong and the National Federation decided to do some research on a pole which would break when it was hit hard. The Dutch Pole was created and was presented during the 2008 FEI Safety Seminar in Copenhagen.
The pole was a resistant cardboard structure with a special coating, waterproof and breaking at a defined load, available in different sizes.

It was explained that a total of 36 national competitions used the Dutch pole. A distribution centre was created to deliver these poles to Organisers 14 days before the competition, in a package of 18 poles. 3 packages of poles existed and travelled around the Netherlands. The riders paid € 2,50 per start to the Eventing Safety Fund.

The FEI approval had been the objective however issues were encountered due to the lack of activation indicator on when the pole needed to be replaced. The pole was used at National competitions and the Federation was no longer seeking the FEI approval.

The MIM Pin was also used in the Netherlands.

The Chairman asked whether statistics were done on the poles. Statistics only included the number of broken poles (approximately 10 % of the poles).

**Presentation on Reflections on Eventing by Teun Platenkamp**

The NSO stated that the Queen of the Netherlands was only willing to let her daughters ride if they had a degree in Judo rather than with an air jacket.

The Dutch riders were very successful at the WEG in Caen, articles had been published in all big newspapers which was very positive for the Sport. However, there was felt that there were different opinions in the Netherlands related to horse and riders accident.

Accepting the risk was part of the sport, however reducing the risk to a minimum was essential. Learning on the accidents was a very important aspect. Lowering the risk had to be done through education and training.

The Chairman mentioned that the Eventing Risk Management Policy stated that active risk management actions had to prevail on passive risk management actions. The steadiness in which riders grew up in the sport was very important, rules and culture needed to find a good balance.

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**9.15 NOR NSO – Anton Granhus**

In Norway, the National Statistics showed that out of 1074 starters, 31 riders unseated falls and 1 horse fall. Fortunately, no serious injuries occurred in Norway in the last 9 years.

Yellow Cards were used. Frangible devices were not used in Norway due to financial reasons.

The rule book was updated with an article mentioning that the Course Designer had to remain at the Competition on the Cross Country day until the last horse had jumped the course. Due to the high costs, it was difficult to maintain the ambulance, only a doctor was necessary for the Cross Country.

The Norwegian Safety Committee was composed by the National Safety Officer, a Technical Delegate, a Course Designer, a former police officer, a lawyer and a trainer.

Course Designers and Technical Delegates had to officiate together with an experienced official to step up. Currently there were four steps but it was felt to be too much.

During the courses for Officials the FEI DVD on Dangerous riding had been used and it was considered as a very useful tool.

Bob Rejnek (CZE) asked whether the doctor had to be trauma specialist. It was not mentioned in the rules but special attention was put to avoid having Medical personnel without the adequate emergency training.
The NSO gave an update on the situation of Eventing in Poland.

A total of 100 competitions were organised in 2014. Special regulations included speed limit in 80 cm – 100 cm classes. Finishing inside the optimum time by more than 20 seconds incurred 1 penalty point per second.

Both yellow and red cards were used (red card was equivalent to 3 yellow cards).

The MER system was similar to FEI system. At competition, a special training session was possible on water fences for the lower classes.

The education system included a course in Strzegom for Judges / CDs and TDs. A course for Fence Judges was also organised. National Courses for Judges were also held.

The plan for 2015 was to educate the equestrian sport community and fans in order to make people understand the Risk Management programme and Safety horse program. A Conference was to be organised for all involved in Eventing.

Specific clinics for Juniors and Young Riders were to be organized in 2015 during the CH-EU-J CCI1* Bialy Bór and CH-EU-Y CCI2* Strzegom.

Risk Management provisions included a central database of serious accidents. The President of Ground Jury had to report to the National Federation all serious accidents within 24 hours. Riders were not authorised to compete until a special medical examination was done after the event.

It was felt that the understanding of safety by riders, trainers and officials was still growing. From a general point of view the dangerous riding problem had decreased. It was still a difficult decision for the Ground Jury and Technical Delegate to sanction the competitor. According to reports from all national competitions in Poland in 2014 the officials eliminated only 1 rider on cross country due to dangerous riding.

The Polish Federation was planning to buy approximately 30 air jackets for the best riders.

It was felt that establishing standards for national competitions could be helpful for National Federations.

In Portugal, the 2014 figures compared to 2013 with not much difference. 27 competitions were organised, 369 starters, no horse falls, 13 rider unseated falls, thankfully with no slight or serious injuries.

The qualification system followed the FEI rules.

Portugal had two International Judges.

It was explained that the Vale Sabroso competition had attracted less starters and might cancel the event.

Sweden was a small country for Eventing with approx 5’300 starters. A total of 104 falls had been registered. One serious rider injury was recorded due to a rotational horse fall on a double brush where the hard part was 60 cm high.

The Swedish Eventing Committee has prioritized the Organisers in the budget by covering pre-visits and visit of the TDs, it was the area where competence was lacking and education was needed.

The 2015 Swedish Rules had been updated following the new FEI rules. Categorised riders on national level had been added. Specific qualification used a system called “M65” which
was a fast track before going to a CIC1* outside Scandinavia (achieving 2 results at National One Star or CI 1 Star with no more than 65 penalties), it was also possible to use the “Base 0” and “Base 20” (two results either with 20 or 0 XC penalties).

The guidelines for Course Designers and Technical Delegates had been updated. They included definition of the dimensions and measuring of fences, as well as the profile of the frame (top spread, base spread), etc.

Several seminars had been organised, a specific course for Course Designers and Technical Delegates, a seminar for Course Designers and Course builders together, etc.

In 2013 a 3 year project called “Cross Country courses without compromises” had been launched, it was expected to have in 2 years all courses up to standard.

It was felt that the competences of the paramedics and doctors needed to be checked.

The frangible fences was a question in Sweden. A workshop had been organised to discuss, build and have a feel of these frangible devices. A good momentum had happened in regards to the MIM device with a good dialogue.

A new invention to help the Course Designers, a tool to measure the inclination of fences had also been presented, it was used with a level alongside of the fence to measure the profile of the fence.

The question of the combinations jumping the fence inside the flags or not had been discussed in Sweden. A recommendation of using two type of flags and attachments on narrow fences and penalised with 10 penalties for a flag falling had been proposed.

A good program was in place for riders in regards to active safety (XC schooling) dialogue and understanding of risk management was very important. An Open forum had been organised where 230 persons participated, questions could be sent by Twitter and it was a success.

It was explained that riders did not consider the risk but more opportunities when going Cross Country. This was an important point to remember in the Risk Management discussions.

**9.19 USA NF Representative – Roger Haller**

In USA, Eventing were held on 6 different levels. Competitions at 80 cm, 90 cm and 100 cm ran under slightly different rules than FEI. For 110 cm, 115 cm and 120 cm competitions, FEI rules were followed. Additional requirements were set to enter the FEI competitions. The only difference between National Rules and FEI Rules was that falls between fences were also recorded and kept in the statistics.

National Judges, Technical Delegates and Course Designers Officials in the USA were spread according to three different levels, 110cm, 115cm and 120cm. National levels matched the FEI levels, 1*, 2*, 3*/4*.

The national Safety program included the distribution of $ 13’000 worth of frangible devices to organisers, of which $ 12’000 was paid by the US Equestrian Federation.

Education programmes had also been developed together with MIM.

USEF (United States Equestrian Federation) and USEA (United States Equestrian Association) working together had a program of Course Advisers, four Cross Country Course Advisers and one Show Jumping Course Advisor were sent out to courses around the country.

A cardiovascular study on horses was ongoing and paid for all necropsies to understand the reasons of death at competitions.
The starters in national competitions were lower for 2014, however the number of FEI competitions increased. It could be explained by riders entering more International competitions and weather conditions not being optimal.

Rider falls were 2.1 % and horse falls 0.1 % of starters, there was 1 serious riders injury and no serious horse incidents. 85 riders were slightly injured. 17 riders were suspended for concussion in 2014 which was less than the previous years.

In regard to helmet cameras, the initial decision to ban them was reversed and riders could now ride with them at their own risk. Riders were encouraged to discuss with their manufacturer on how to secure the camera to the helmet.
10. WORKING GROUPS

10.1 Indoor Cross Country - Rob Stevenson

The recommendations which were given by the FEI in December were discussed.

It was felt that the indoor XC was a good promotion for the sport with the caveat that the nature of the sport needed to be preserved, the XC be designed in a way that encourages good riding and enhance rather than turn public away from the Eventing sport. Course Designers had mentioned that if the courses needed to be sufficiently technically difficult for riders not to go too fast.

Recommendations included:

Two round format were proposed:
- 1st round optimum time
- 2nd round all riders or top 10 scores

Obstacles:
- Fixed obstacle with a rail over the top

Competitors
- Successful 3* level riders

Music:
- Was loud music impacting on the riding

Cost estimates:
- Eventing Course Designer was necessary as well as a Senior Judge

Suggestions included:
- Promotional / educational video to get the sense of the sport
- Rider briefing horse inspection
- 3 star riders
- 3 star course designer
- 2 star XC course
- riders to be paid to travel and compete
- Style competitions with 2 style Judges
- Speed to reflect the size of the venue
- Ear plugs
- Jumping round following directly by XC round
- 3 star riders fences at 1m15, 2 star riders fences at 1m10
- Approx. 1’000 m at 400-450 m/min
- Approx. 16 obstacles

It was agreed that Eventing was jumping fixed fences with an optimum time, not against the clock and not speed classes over fixed fences.

Adding to the guidelines a limitation of the prize money to avoid riders going too fast and riding unreasonably was proposed.

Three Star level riders and a two Star level test were strongly suggested as the environmental criteria were different for the riders and horses and adaption was needed.

Pierre Michelet explained that portables used in France either had concrete bases or bases which were filled with water.
10.2 Enhancement and development to International Statistics and data mining – Dominique Maes

Data collected over 10 years at FEI competitions ensured enough data to study specific questions on horse falls. Pertinent questions now needed to be determined to allow to define trends and risk management decisions.

It was important to concentrate the queries on the subjects where the study could have an impact.

Certain specific queries needed to be set up to monitor falls and injuries. This information could then be followed up every year to allow comparison and be used for decisions in the sport based on the figures and evidence obtained.

Questions could include:

- Was the use of pins influential?
- What was the influence of brushes?
- Where did the falls occur, early or late fence on the Course?
- Was the fence on a bend?
- What was the effect of frangible fences on injuries?
- Did Championships cause more falls?
- What could be the reasons for the high fall rate at 4 Star level competitions

A profile of an average rider could be made. The profile to include information such as category, SJ score, dressage score, and this information could then be compared to other riders and standard deviations would show whether good Show jumping riders fall less or more in Cross Country. A horse profile could also be done.

It was suggested to add the distances between the fences and the elevation of the course. Apps existed to measure these data and it could be easily done.

For example, if National statistics showed that the probability of a horse fall was very low, maybe the necessity of frangible devices was less at that level and reduced use could help to reduce the costs for the Organisers.

The fence type had to include all the distinctions to have as much information as possible.

Philine Ganders (GER) suggested that the unseated riders falls where the horse hit the fence hard on the way up should also be included as they were horse fall near misses.

10.3 Medical Update – Concussion – Medical armband – Peter Whitehead

Communication of medical issues at events: Communicating injuries occurring at International events to the FEI and back to the National Federations need to be ensured. The Chief Medical Officer was responsible for reporting the injuries on the form which was part of the Technical Delegate report. It was felt that the fall form didn’t allow to give enough information in regards to detail.

The current system included that an e-mail was sent to the Technical Delegate the week before the competition asking to report any rider / horse serious accident, yellow cards and warnings immediately on the Sunday evening.

As Technical Delegate reports reached the FEI only after a few weeks and the flow of information was not optimum. It was suggested to add a direct telephone number to the FEI Eventing Department on the medical form.

The Medical Committee would review the form and provide their suggestions to improve the form.

The fitness to compete was to remain the responsibility of the athlete.

Concussion: The FEI Medical Officer provided on concussion. In the past, concussions were divided in two categories mild and severe concussion. This has now evolved to
treat all concussions in the same way as each individual reacted differently in their recovery from concussion (It was possible to lose consciousness without any symptoms of concussion). The SCAT 3 (Sport Concussion Assessment Tool) was used to assess individuals medically.

The main recommendation from the Zurich Convention on concussion, partly sponsored by the FEI, Dr Allen Sills Neurosurgeon from the Medical Committee, was that athletes with concussion symptoms should not go back to competition on the day.

Guidelines had been produced by Dr Allen Sills for Medical Officers and Organisers which would be posted on the FEI website medical page together with details of the assessment tool and a concussion recognition tool. The guidelines included a recommendation that one member of the medical team (doctor or paramedic) have sport concussion knowledge.

Another recommendation was the introduction of a clearance form for athletes having had a concussion.

During the ERMS in Rome two years ago the armbands were discussed as the issues of the Medical card were identified. The new procedures implemented in 2015 included:

- a contact number for each rider
- Athletes with a serious medical condition were responsible to wear a medical armband or a medical alert system. The concerns regarding the confidentiality were covered when athlete chose to wear such devices. Systems which were entirely web-based were not useful as difficult to access in the field.

### 10.4 Frangible / Deformable devices – 21 penalties – Lars Christensson

Breaking of frangible device and the 21 penalties were discussed. It was agreed that use of frangible fences needed to remain the choice of the Course Designer and the Organiser. The rule for breaking a device had been updated and now 21 penalties applied automatically for any broken device applied.

The pros and cons of the implementation of the rules were defined as follows:

**The positives:**

- Objective decision
- Consistency of judgement across all events
- On the scoreboard – official notification
- Easier to take away after discussion with rider
- Less pressure on Ground Jury
- Riders have to provide explanation of default in system
- Follows the same principles as other faults in the Cross Country (Eventing)
- Taking away emotion
- Increased awareness of CD/TDs, GJ, Organisers, thinking through the use, position and profile of a fence as well as what device to use
- Safety should never be compromised
- Better/more accurate riding
- Rider to make risk analysis

**The negatives:**

- Costs for organisers
- Education in technology (to learn how to use the devices)
- Using devices which had already been activated (bending it back into place)
- Organisers wanting to avoid conflict avoided to use frangible devices
- Pressure on the organisers from the riders
- Riders claiming they couldn’t control devices (difficult to prove any malfunction)
- Riders not wanting to take part
Recommendations

- Education of Course Designers, Technical Delegates, Ground Juries, Fence Judges, Riders
- Monitoring of frangible devices
- Control System
- Competent Fence Judges
- FEI collecting footage for further education
- Thinking outside the box

It was questioned whether either removing the penalty for a clear failure of the mechanisms, or giving the option of allocating a lower number of penalty points.

If the rider provided footage to prove/show issues with the frangible devices the evidence should be used.

Roger Haller mentioned that certain Course Designers were rethinking the use of frangible / deformable devices to avoid the confrontation of the riders not getting MERs.

Never compromise on Safety was very important.

Pierre Michelet stated that in his opinion there were several ways of building a safe course without using frangible devices by placing the correct fence in the correct place.