

**Eventing Risk Management (NSO) Seminar
 Lausanne (SUI), 27-28 January 2018**

A total of 42 Safety Officers and NF Representatives from 23 countries (AUS, AUT, CAN, DEN, ESP, FIN, FRA, GBR, GER, HUN, IRL, ITA, JPN, NED, NOR, POL, POR, ROU, RUS, SUI, SWE, THA, USA) (see *participants list – Annex I*) attended the 11TH Annual Eventing Risk Management Seminar at the Olympic Museum in Lausanne (SUI).

RECOMMENDATIONS AND CONCLUSIONS

1. INTERNATIONAL STATISTICS CONCLUSIONS:

- The injury definitions needed to be redefined. Concussion needed to be a separate category

2. NATIONAL STATISTICS CONCLUSIONS:

- Falls at National competitions were lower than International competitions, reasons needed to be examined

3. DATA – COLLECTION AND DATA MINING

- Ongoing KPI reports to be created
 - Number of Horse falls by level per Course Designer
 - Number of falls per event (rider unseated, horse falls, rotational falls)
 - Falls related to fences (type of fence, position on course, combination, level, picture)
 - Frangible device numbers (how many were used, how many falls)
- Electronic TD reporting system to be implemented

4. OFFICIALS EDUCATION

- Assessments to be done before Courses
- Screening of candidates to be done before Courses

5. ATHLETES EDUCATION

- Athletes to answer a questionnaire before the first One Star international competition, on rules, risk management, etc.
- Risk Management Meetings to be organised at One star level competitions. Meeting to take place before the competition with the OC, TD, coaches to remind everybody about Risk Management questions and issues. Coaches to report back to their athletes.
- Coaching guidelines to be worked on (as a memorandum) with a few topics on the FEI website (using Jean-Philippe Camboulives’s workbooks) giving the basics
- NFs to send their coaching programs to the FEI

6. EDUCATION SYSTEM FOR COACHES AND ATHLETES

- Coaches were the major actors of the sport and each NF was encouraged to improve the education of their coaches

7. MEDICAL SUSPENSION BY NFs FOR CONCUSSION

- NFs were encouraged to have concussion and return to play guidelines

8. COOPERATION BETWEEN NFs ON RISK MANAGEMENT

- Agreement to share information in a proactive way
- Facebook page to be created (available to NSOs only)
- Reference library to be created for all Eventing Risk Management studies and posted on the FEI website

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1. Welcome – Introduction by Sabrina Ibáñez, Secretary General

The Secretary General, Sabrina Ibáñez warmly welcomed the participants highlighting that the objective of the Seminar was to exchange information and share experiences in Eventing. Eventing was a special discipline and considered open minded and innovative.

She also informed that the FEI Sports Forum (26-27 March 2018), would include a dedicated session on Risk Management covering also the Concussion and return to play subjects.

1. Welcome – Introduction by David O'Connor, Chairman Eventing Committee

The Chairman opened the Seminar by welcoming and thanking the participants for traveling to attend this important meeting for the sport. He referred to the initial reason to set up the first dedicated NSO Seminar in 2008 as a direct line of communication between the FEI and NFs. These annual meetings have allowed new concepts and ideas to be developed and be used in the field rather than remain academic processes.

Importance of implementing Risk Management at all levels: The 4 Star level was the more visual part of the sport attracting the Media and most spectators, however Risk Management needed to be implemented throughout the levels and essentially at the One and Two Star level where youth and amateurs competed. Athletes, horses and Officials were less educated and experienced at this lower level therefore the risk factor increased and needed greater consideration.

Coaching: The coaching of athletes and the education was an area which needed to be more developed, specifically in the new countries organising One and Two Star level competitions.

Further to the discussion on coaching at the 2017 Summit in Tattersalls, a survey was sent out to NFs to identify what/if specific Eventing Coaching programs were in place. From the answers received, it was clear that not many “pure” Cross Country modules existed or were used. The coaching was also identified as the weak part in the certification process of most NFs. It was paramount to develop a more systematic way to teach Cross-country riding.

FEI Officials Fb page: The Chairman referred to the dedicated Facebook page set up exclusively for FEI listed Eventing Officials (Judges, CDs and TDs) which allowed for exchange of ideas, issues, case studies and exchange of officials.

Results and risk management data / EquiRatings: EquiRatings had been contracted by the FEI to establish a predictive rating system, EquiRatings were now involved on a national basis in several countries. The main issue was to find ways to improve the quality of data at all levels which was an ongoing process. The system was in a testing phase and the project was ongoing.

Different issues had been identified for review to allow for quality risk management data reporting (falls, fence description forms, fence analysis etc.). E.g., horse falls in the US were reported as mandatory retirement (MR) and not shown as horse falls (HF) in the results. The National procedures needed to be reviewed to match the FEI system. Furthermore, the Cross country course fence analysis were now being entered in the database, which allowed better counter check with results and the fall reports.

Concussion and medical suspensions. In comparison with other sports procedures, it was clear that NFs needed to take responsibility by implementing an automatic medical suspension and following up on injured athletes. Several NFs had already systems in place (AUS, CAN ITA, GBR, SWE) and could be contacted for information. The FEI Medical Committee will give a presentation during the FEI Sports Forum in March on situation today, tools available, and provide more information to NFs.

2. REVIEW OF INTERNATIONAL AND NATIONAL STATISTICS AND BENCHMARKING

The number of competitions were growing particularly the One star level with an increase of 22 % and an increase of starters of 15 % over the last 5 years.

Falls: The total falls were stable (except at the 4 star level where the low number of starters had an influence on the percentage of falls). The horse falls have decreased from 1.59 % in 2013 to 1.38 % in 2017. For horse falls by competition level, the percentage increased in proportion with the level however, at 4 Star it was much higher and the reasons for the exponential increase needed investigation. The number of rotational falls was very small, the percentage had dropped over the last 10 years from 0.30 % in 2008 to 0.17 % in 2017.

The falls by rider category showed that the more experienced athletes fell less. The high rate of falls of the non-categorised athletes at 3 Star level was an area of concern, which needed more investigation to understand if this was a trend over several years.

Injury definition: The injury definition needed to be redefined specifically for the slight and serious injury. The suggestion was to split the serious injury into additional categories to obtain a clearer understanding. Other sports would be asked for their classification system. Concussion could be part of a separate category as currently they were reported in the serious injury category. The FEI was being open and progressive about the communication on injuries and it was important to improve the accuracy.

Air jackets: The recorded number of riders wearing air jackets amounted to 52 %. More serious injuries were reported with air jackets (66%) which needed to be investigated as this could be due to the serious-injury definition. The information of the type of body protector worn under the air jacket needed also to be better understood.

National Statistics: The quality of the data of National Statistics provided by the respective NSO had greatly improved. The fall percentages at all levels of National competitions were

halved compared to International competitions. Likewise, the percentage of horse falls were lower in national competitions. The gap was big, and reasons needed to be identified; it could be related to athlete psychology (taking more risks at FEI competitions to obtain qualification), Course Designers being different or National levels being at a lower standard.

3. EDUCATION SYSTEM FOR COACHES AND ATHLETES - *Jean-Philippe Camboulives* Annex II

Jean-Philippe Camboulives, FEI Development Officer Solidarity, presented the FEI Coaching system developed in 2011. Different tools were implemented to help promote and develop the sport in development countries and support the coach as the major actor in sport.

Support was available for the NFs including 25 different programs which covered specific zone of actions split in 4 sections: Athletes, NFs, Coaches and Values.

- For athletes the support was given through scholarship, training for camp organisation, athlete or team support for participation in international competitions (Regional Games), etc.
- For the NFs it included help to develop sport structure by implementing efficient and consistent systems with rules and statutes.
- The values program included all the different projects around corporate social responsibility, to use equestrian sport for social activities.
- Coach development represented 44 % of the action

The aim of the FEI Coaching System, was to develop an agreed syllabus for the ongoing education and improvement of coaches in all equestrian disciplines in Developing NFs for the benefit of the sport and all those involved. The coaches produced by these courses were certified jointly by the NF and the FEI.

To promote Coaches as major actors of the sport, approximately 45 courses were organised around the world each year, with tutor specialists in different disciplines. Each level was supported by a set a pedagogical material with a workbook, a pedagogical and technical part with a DVD, a specific assessment company was used. The Courses were open to all coaches selected by their NFs. Each NF was responsible for establishing their own coaching structure as the FEI did not directly certify coaches.

Different levels were proposed from Intro to Level 3 (contents available on FEI website).

- Level 1 was developed for Novice to 1 Star,
- Level 2 for 1 Star to 2 Star
- Level 3 for CCI2* and CIC2*

A generic and specific workbook was available. More than 3'700 coaches were in place, 3'400 level 1, 300 level 2 and 33 level 3.

The aim was to share the knowledge around the world, to strive for a universal learning methodology.

Questions:

- What was the difference between training and coaching?

The Coach activity was not limited to athlete and horse training it also covered the technical parameters, improving the physical part, improving the mental skills, improving tactical aspects and managing life style of rider and horse.

Performance Wheel



- Were Coaches from different sports included in the program?

The generic content of the Courses was prepared in conjunction with different sports (tennis, golf, motorcycling, etc.). The common knowledge was very important to improve the mental capacity of the athlete, improving the life style of athletes, etc.

4. MEDICAL SUSPENSION BY NFs FOR CONCUSSION – Rob Stevenson Annex III

In Canada, concussion has been much discussed which has led to the implementation of a concussion and a return to play plan as the Eventing was recognised as high risk sport.

The risk to the Athlete needed to be included in the Risk Management. The second impact syndrome places the athlete at immediate risk of catastrophic injury. The signs and symptoms of concussion must be recognised and overreacting was not to be an issue if concussion was suspected, it was important to stop the athlete for assessment.

Concussion reporting was essential as well as the procedure for the clearance of athletes though return to play guidelines. Raising the standard of medical personnel at competitions was discussed by Equestrian Canada as a result the minimum level of certification for onsite competition medical personnel will be raised to First Responder in 2018.

An Internationally recognised return to play guideline was set up. The Accident injury report form available on the Equestrian Canada website covered the different steps. When concussion was diagnosed a return to play procedure needed to be followed before the athlete could compete again. SCAT test was the assessment tool used for the diagnosis.

The forms were available on the Equestrian Canada website. The concussion awareness was included in the rules under Article 101. An FAQ was also available.

The concussion subject will be a discussion subject at the FEI Sports Forum in March 2018.

5. COOPERATION BETWEEN NFs ON RISK MANAGEMENT – Mike Etherington-Smith Annex IV

The instruction videos for the MIM System (to be used in conjunction with the instruction manuals) were now made available and would be posted on the FEI website. The instruction video for Corner fences would follow and be made available at a later stage.

It was stated that the collaboration and cooperation between NSOs, NFs, FEI (through the Eventing Committee and Risk Management Steering Group) was essential to avoid duplication of efforts and maximize the limited resources.

NSO Facebook portal: It was agreed to create a Facebook portal for NSOs (limited to one person per country) to share information on subjects related to Risk Management i.e. horse falls, education programs, frangible devices, concussion programs, etc. This could help share information and identify the ongoing projects in the different countries as well as necessary update.

Communication: One person who be appointed to answer and liaise with the participants and one member of the RMSG (Risk Management Working Group) would be appointed to provide updates.

Ideally, University studies should be shared to avoid duplication with all the National Federations, a reference library to be created for all Eventing Risk Management studies and posted on the FEI website.

Action Plan on different points needed to be established before each NSO Seminar with a timeline to allow a better preparation of the Seminar covering all the necessary subjects.

One NSO could be elected as a member of the RM Steering Group to ensure that the information be exchanged between the NSOs and the Steering Group.

Phase-out the front pin frangible devices: The recommendation to phase out the front pin frangible devices agreed at the 2017 Tattersalls RM Summit was clarified as the

technology to replace the device was not available. Some National Federations had already added to their National rules that front pins were no longer to be used in National competitions.

Precedence of FEI Rules for International events versus National Rules: The legal implications of having different National Rules to the International Rules was to be clarified to avoid possible issues in case of an accident (FEI Legal department-HQ)

6. MISCELLANEOUS

NF Safety Committee: A strong recommendation was given for NFs to create a Safety Committee (NSO as chairman, people strongly involved in the sport (Doctor, Course Designer, Technical Delegate) and people from outside the sport (industry)).

2019 NOS Seminar: The NSO seminar to be organised either in GBR or POR, 4th week/end of January.

The suggested subjects for next seminar could include inviting a Show Jumping Course Designer, and inviting different sports such as Ice Hockey.

7. CONCLUSIONS OF SEMINAR - *David O'Connor*

The following recommendations were made to enhance the Risk management program:

- Risk Management homework needed to be done by National Federations – projects had to be developed first by NFs. The FEI was the helper and not the driver
- Focusing on the human aspect was essential and shifting away from exclusively technical aspects. Coaching was key and needed to be developed systematically and supported (sending people to smaller countries to help starting the programs)
- Adapted Ground lines must be developed and promoted
- Return to play, concussion and medical suspension protocol to be implemented by NFs
- Return to play to be envisaged for horses – to be further studied
- Injuries definition in particular serious definition needed to be redefined
- NFs to study participation restrictions for athletes in the XC if minimum requirements in Dressage and Jumping have not be reached for national rules. (poor Dressage and SJ performers should not be allowed to start XC)
- Portal (Facebook page) to be set up for NSOs (restricted for NSOs only)
- Frangible fences – continued research needs to be ongoing to develop a wider selection of obstacles for which they could be used
- Sharing information on new technologies (when available) was important
- Strong emphasis needed to be put on the Cross Country course design Guidelines' content as these were becoming more important and needed to be widely diffused.

8. WORKING GROUPS

The following conclusions were reported back from the breakout sessions working groups.

8.1 DATA – COLLECTION & DATA MINING – *Speaker: Geoff Sinclair*

Recommendations – Action Items:

Ongoing KPI reports could be created:

- Number of Horse falls by level per Course Designer

- Number of falls per events divided by rider unseated, horse falls, rotational falls
- Falls related to fences (type of fence, position on course, combination, level, pictures)
- Frangible device numbers (how many were used, how many falls)

Other points to consider:

- Concussion to be added as a separate category for the injury classification. In addition the serious injury would need to be modified to include only overnight stays at hospital.
- Simplifying the fall report (using the Australian fall report) as 90 % of the falls had no consequences for riders or horses.
- Electronic TD reporting system was felt very important and it was necessary to study the way to implement it

Data mining:

- Horse falls at frangible fences by event, level, and NF
- Falls per athlete category (NC, D, C, B A)

The recommendation was to appoint 3 persons from the RMSG or Eventing Committee to work on what reports were necessary.

8.2 OFFICIALS EDUCATION – *Speaker: Roger Kane*

Recommendations – Action Items:

- Officials from smaller countries needed help to get opportunities to maintain their competences.
- Courses should be organised to prioritise more interactive sessions. (Assessments for transfer could be done beforehand by doing mentoring and assessment at events)
- Screening of candidates to be implemented before attending a course to assess that the knowledge/experience and understanding is up to FEI's first level
- Seminars were felt as essential but frequency of attendance could be increased.
- Annual certification through ELearning for all Officials was felt necessary
- The level of training and Course Directors of FEI Courses was up to the standard, however National courses were less up to the level. Harmonizing the national course contents with the FEI was suggested, for example using the Dangerous riding DVD which could be shown by trained Official at National courses.
- Recommendation for National Federations to implement a National license for Officials renewed every 2 years
- Annual test for Course Designers to ensure the XC Course Design Guidelines were well understood
- FEI Campus /E-learning platform to be used widely as possible.

8.3 ATHLETES EDUCATION – *Speaker: Laurent Bousquet*

The needs were very different depending on the Nation. The Coaches education was crucial as it was the basis for athlete education. Coaches needed to help athlete get the adequate experiences. One of the most difficult things was to teach athletes how to improve their instincts, which could only be done by repeating good movements and experiences.

Before: The aim is the competition but what happened before and after is essential. Coaches need to be involved with the athletes' strategy for all 3 tests, Dressage, Cross Country and Dressage. Videos needed to be used to help the athletes analyse their riding.

During competition, it is too late to review and discuss technical aspects, it is now the mental preparation that makes the difference (human factor). Adjusting the goals for the riders to keep them in the good attitude is also the coach's responsibility.

After: The debriefing after the competition is very important (videos to be used) the rider needed to provide the feedback as it was key to improve for the next competition. The life style of the athlete needed to be adapted before, during and after competition.

Recommendations – Action Items:

- Riders to answer a questionnaire before the first One Star international competition, on rules, risk management, etc. The FEI to provide it to the NFs (to ensure an international standard)
- Increased use of Statistics relating to Athlete categories (falls, performance, etc.)
- Risk Management Meetings to be organised at One star level competitions. Meeting to take place before the competition with the OC, TD, coaches to remind everybody about Risk Management questions and issues. Coaches to report back to their riders.
- Coaching guidelines to be worked on (as a memorandum) with a few topics on the FEI website (using Jean-Philippe Camboulivès's workbooks).giving the basics
- NFs with Eventing specific program to be asked to share with the FEI

9. NATIONAL FEDERATIONS PRESENTATIONS

9.1 AUS NSO – Roger Kane

Annex V

A Risk Management working group was created in 2016 after the two fatalities occurring in March and April 2016, led by the Australian Eventing Committee. Five short term actions were put in place: review of the MERs for D and non-categorised athletes, implementation of the rider representative system for all National competitions, reinforcement of rider sanctions processes, guidelines developed for implementing frangible devices widely, conduct of a Course Designer workshop.

A standardised Technical Delegate report was set up for all states to help with the collection of data and EquiRatings was contracted for a trial funded by "Making Eventing Safer" fund.

As from February 2018, frangible technology was made compulsory on all competitions (Star Classes).

Other actions included the creation of a concussion protocol (in place since January 2018), fence judge incident video was set-up (in case of an incident at a fence), and improved standardisation of medical coverage services as well as serious incident management protocol and Risk Management plan.

It was fundamental to concentrate and check all the basics, measuring the fences, striding, checking the Spiro fixes, be in line with the guidelines. The Serious Incident Management Plan needed to be in place. The rules needs to be followed.

9.2 AUT NSO – Katrin Eichinger-Kniely

The Risk Management actions implemented in Austria for 2018 included training seminars for Judges, trainers and riders. The NF covered half of the cost of MIM devices for Organisers, each event had 2 fences fitted with MIMs, and the intention was to increase that number.

Several FEI rules were implemented in the National Rules such as the 11 penalties, the qualification system was more demanding with 62 points for Dressage and 12 penalties for Show Jumping, the reverse qualifications system. A penalty for riding too fast was also applied, 30 seconds too fast incurred 15 penalty points. The missed flag rule had not yet been implemented.

The statistics showed that with 2000 starters, 79 falls occurred, including 5 horse falls. The percentage of falls was high (3.95%) and it had been for the last 8 years.

The number of International competitions has reduced going from 5 venues with 10 competitions to 1 venue, due to the high costs for very few starters.

For the specific Norikers type of horses which had caused many falls in the past year, the riders had been spoken to and only one fall occurred last year.

9.3 CAN NSO – Rob Stevenson

In 2017, the total number of starters in Canada was 5000 starters and 240 falls, 135 falls were on Cross Country, 20 % of all falls were on Show Jumping, which emphasise the importance of coaching. The concept of competency allowing riders with a certain level to ride at a certain level of competition was a good system.

In Canada, competitions organised from 70 cm to 120 cm, no rotational falls were recorded over the last 4 years.

Not enough international level competitions were organised in Canada. It was felt that it was necessary to compete in international competitions to have a steady progression through the levels. Therefore, it was decided to organise an Intro and One Star competition in 2018 at the venue Foshay International in New Brunswick.

9.4 DEN NSO – Marlene Schelander

Style competitions have been developed in Denmark at low level to educate riders, based on the Swedish model. Athletes obtain points for their style, educated trainers and judges were appointed. It is a huge success in Denmark, approximately 20 competitions were organised, the level was 0.70 cm for ponies and 0.80 cm for horses.

9.5 ESP NSO – Felicísimo Aguado Arroyo

Annex VI

The number of competitions and starters in Spain had increased in 2017. Only one serious accident in a regional competition occurred. Frangible devices were used for the first time in 2017.

The concussion subject will be discussed with the NF to understand if a concussion and return to play plan can be implemented.

To date, there was no coaching program in place and no specific Eventing program was set up, for the time being there was no possibility of having a specific program

9.6 FIN NSO – Kalle Nykanen

In 2017, the total number of competitions in Finland was 86 and 1300 starters were reported. As there were not many competitions at 1 and 2 star level, riders travelled to Sweden and Germany.

A new category at 0.60 cm was organised in 2017 with 260 starters. 4 Young Horses style competitions had also been organised, with good prize money which attract more competitors.

A cooperation was set up with Sweden in view of the Nordic Baltic Championship in 2018 with Lars Christenson as Course Designer.

Frangible devices were used in Nordic Baltic Championships and National Championships.

Education for style classes Judges was implemented.

More courses for coaches needed to be developed. A licence was needed for coaches and a course every second year was necessary.

9.7 FRA NF Representative – Pierre Michelet

In France two different type rules were used depending on the level of the rider, Amateur and Professional. For the Amateur, penalties for excess of time on XC were given, 1 penalty point for every 10 seconds inside the time. More than 1 refusal inside the time, 10 points penalty were given. It was to encourage riders to ride at a reasonable speed. On competitions where Show Jumping was before Cross Country, riders with under 45 % in Dressage or 4 rails (16 penalty points) in Show jumping could not start the Cross Country.

The reverse qualification system was also applied. No penalties were applied for breaking frangible devices at all levels.

A course Designer course for all Course Designers is organised in Saumur in March for approximately 30 CDs. A trainers meeting was also organised in La Motte Beuvron in March. In addition, a Safety meeting with other sports including cycling, motorcycling, etc. was being organised.

9.8 GER NF representative – Philine Ganders

Annex VII

The Fence Judges App had been finalised in German and was now available. For the time being, the rules available were the GER NF and FEI with different colours to differentiate. Videos were available to explain the different situations fence judges could face. The German fall report was also included to help fence judges with the questions they could have. The App will be translated in English as soon as possible. A reference needed to be added on the FEI E-learning platform.

Since 2015, 500 MIM systems were delivered to 130 organisers. 145 emergency doctors were educated to give them awareness on the specificities of Eventing. 50 Organisers obtained financial support for their Doctor's team.

Horse falls and rotational falls have reduced from 2013 to 2016. In 2017, the horse falls had increased again but an analysis needed to be done to establish what the reasons were.

When studying the rotational falls, it was felt that the approach was important, a straight approach to the fence could be a factor in rotational falls, it was being studied to establish if this feeling was confirmed by the data.

Tables and corner fences fitted with MIM were available for 3- and 4- star competitions. The Klengel system was being tested and further developed and could be submitted for FEI certification in a near future.

A workshop was held in Warendorf to learn how to improve old fences.

A training session was also organised for 600 young riders and their trainers with Chris Bartle, other national team coaches and the NF Doctor Manfred Giensch on Risk Management including equipment (helmet, body protector) and the "rock on ruby" training horse was used.

There is interest in conducting a Veterinary study on cardiac arrests in horses. Different studies were being done in USA, SUI and GER and FRA.

A DVD was being produced with Chris Bartle on training, with example of seat positions, etc. and is now available both in German and in English.

9.9 GBR NF representative – Heather Cameron-Whytock

Annex VIII

Heather Cameron-Whytock a PhD student researching on Eventing risk analysis gave a presentation on mass data analysis.

In 2015, during the NSO Seminar in Madrid, the study on a small preliminary dataset was presented and showed that riders in leading positions were more likely to fall. Riders who were in leading positions after the Dressage and Show Jumping were more at risk of a horse fall. The reasons for that finding were studied and it was decided to do a mass data analysis using the last 10 years of data (GBR), to find the key factors and how the variable were interacting together including how many times the horse had competed in the last 30 days, 60 days and 90 days. How many falls had the horse and rider had in his career.

For every horse fall a horse has had in his career, it was 30 % more likely to have another horse fall when competing. It was the strongest association found. For every competition that the horse has done in the last 30 to 60 days, it was 25 % more likely to fall. The more the horse competed the more likely he was to fall. Horses competing in higher levels were more likely to fall than at lower levels. The rider age had an influence, for every additional year of age, the risk of falling decreased by 1 %. For the horse, every additional year of age, the risk increased by 0.4 %. Show Jumping and Dressage penalties, the more penalties the more at risk they were. The number of days since the last start, for every additional day

of rest, the risk decreased by 1 %. The number of times the rider competed in the last 30 to 60 days, if they competed once or twice the risk decreased, as from 3 times the risk increased.

In addition to that an infield study was done using heart rate monitors on riders and horses before, during and after the Cross Country. GPS tracking was also used to follow them on the track. A questionnaire was filled in before and after the Cross Country to establish if factors affected their performance. The horse's heart rate, speed and altitude were recorded. The riders were asked to train their horses for the competition level at home using the heart rate monitors and the results showed that the horses didn't get the heart rates as high as in competition.

The analysis of the psychological data from competitions was undergoing, however, certain situations showed that for some riders the person accompanying had an influence on the stress levels. Male riders were more likely to have a fall than woman.

In data collection, the quality and consistency of the data was very important.

The multi factor analysis will be done and it will be given in by December 2018.

9.10 HUN NSO – Gyorgy Bazar

Hungary organises 17 competitions every year from 90 cm to 3 star level with approximately 600 starters, 12 falls, 4 horse falls.

The composition of the group of organisers was changing, traditional venues were being lost but new ones with better technical courses were being created.

The number of Hungarian Officials was very low and Foreign Officials needed to be invited to Officiate.

MIMs clips were being used for the last 3 years, the NF owned them and could therefore be moved from one venue to another.

Two FEI Equestrian Sport Educative events were organised in the previous years which was a huge help for the riders, trainers, TDs and CDs. The NF was trying to find ways to organise seminars as it was felt very important.

9.11 IRL NSO – Alison Packman

EquiRatings has been used for the past two years in Ireland. The first year a significant reduction of falls was recorded. The second year another 30 % decrease was recorded based on the 2016 falls. Both unseated riders and horse falls had reduced. EquiRatings was in discussion with other NFs to share information regarding Irish riders riding overseas allowing information to be shared and influencing their rating.

A watch list was created and sent to the Stewards before competition flagging all riders with an amber rating (ratings were green, amber and red).

An initiative to standardise the Cross Country courses was set up to prevent riders competing only on the "easy" tracks to obtain points for qualification A Course Designers Committee was created and accredited all 2 Star and certain 1 Star Course Designers. Mike Etherington-Smith discussed the courses with the Course Designers. 2 National CDs will follow an FEI Course Designer course in 2018.

This year, the focus was on Course builders. A Committee was being set up to inform them how important their role was.

The discounted offer for MIM pins was continued for Course Designers and Builders.

For the first time a workshop for all Officials was being hosted in a couple of weeks It was organised for all Event Organisers, Course Designers, Course Builders, Medical personnel, Scorers, etc.

9.12 ITA NSO – Giovanni Masci

Eventing Rules in Italy were based on FEI rules, for all levels with a few differences i.e.: It was forbidden to smoke or drink when riding or officiating. The jumping outside the flag rule was only applied for Two and Three Star Team competitions.

Medical suspension system was in place, and concussions entailed 3 weeks suspension and medical certificate was necessary for return to play.

To encourage the use of frangible devices, a special fund had been created in 2017.

The issue regarding air jackets inflating without the rider falling was highlighted and it was questioned whether a rule was necessary. It was felt that a rule to stop the riders and allow them to remove the air jacket could be a solution. The air jacket companies were looking at a strap to deflate the air jacket if needed.

9.13 JPN NF Representative – Tomio Ogawa and Keiko Kabashima

National and International competitions were organised in Japan at One and Two Star only as the top riders were based in Europe to obtain qualifications for the WEGs and Olympic Games.

The statistics showed that number of starters was 335 and no serious or slight injury were reported.

It was necessary to have more coaching and training to develop the sport in Japan.

The information given at this NSO seminar was very useful and will be shared with the NF.

9.14 NED NSO – Teun Platenkamp

Annex IX

Eventing was unpredictable sport. The risk factors in Eventing accidents were split, 86 % were attributed to human factor, 6 % weather, 4 % technique and 4 % other factors.

Human factors in risk management was linked to errors and unintentional mistakes, poor judgement and bad decision making and disregard for procedures.

It was felt that not enough attention was given to the human factor. The first step when an accident happened was to look at the fence, the next step was Risk Management by implementing more procedures and finally the human factor was examined.

Optimising the relation between the athlete, the horse, the trainer and the officials was a key element.

The factors which could influence human's behaviour included alcohol and drugs, illnesses and injuries. It was necessary to track them and stop athletes from competing if they were not fit to compete.

9.15 NOR NSO – Anton Granhus

Norway was a small Eventing nation, with 66 competitions and 736 starters in 2017.

All officials need to have a licence and all riders must have a licence which can be obtained after having had the green card which is necessary to ride above 80 cm.

3 MERs at 90 cm were necessary before starting 100 cm and another 3 MERs at 100 cm before starting One Star competitions for which a green card confirmation signed by a trainer was necessary. Before starting an international One star level, one National One Star with clear XC was compulsory however the National trainer could refuse it was felt the rider was not ready.

Officials needed to follow a course every 3 years and if necessary it could be more often.

9.16 POL NSO – Jacek Kowerski

The 2018 modifications to the Polish national rules included a modification for the MERs in low level (up to Intro) with no more than 45 penalties on Dressage, 0 penalties on XC and no more than 75 seconds over optimum in XC, no more than 12 penalty points in SJ.

In competitions where SJ was before XC, more than 53 points in Dressage or 24 points in SJ in competitions the riders would be withdrawn.

In the rules, one article covered the guidelines for Safety at an event. It covered how the Organisers needed to work with the TD and medical services. A register of accidents was kept on the Polish website where competitors and horses who needed care were recorded. The accident information was also included in the fall report. Before going back to competition the rider had to present a medical certificate to the NF.

The shoeing of horses was an issue, at certain competitions it was reported that horses did not have appropriate shoes and this matter should be looked at in more depth.

9.17 POR NSO – José Anibal Marianito Silva

Annex X

The starters have increased in Portugal 2017 compared to 2016 and no horse falls were reported for the last 3 years. Regional competitions were being developed and the number of young riders had raised. Only 3 – 4 international competitions were organised in Portugal.

The rules used were similar to the FEI including the reverse qualification system.

Regarding the education of Officials, compulsory courses every 3 years had been implemented allowing a better understanding of the rules.

Awareness regarding the rider sanction system was increased and was now used more widely.

9.18 ROU NSO – Mihnea Virgolici

The Eventing sport in Romania was very small and only 3 facilities were available. A pre-novice competition was added to attract more competitors allowing riders the week before the competition to jump all the XC course. The results of Show Jumping and Dressage competitions counted for the National Championships at low level.

For the last 5 years, the Karpatia Horse Show, an International competition was organised in Floresti as well as National competitions it was combined with Driving to attract public and was very successful.

MIM devices were being purchased and used at the competitions.

9.19 RUS NSO – Vladimir Dikun

Eventing in Russia was decreasing and no 3 Star competitions were organised in 2017.

The number of FEI Officials was very low, 2 TDs, 1 CD and only 2 Judges. There was a great problem with coaches as no coaching program was available in Russia. It was being improved this year by implementing a licence system.

In 2017, 4 international competitions were organised and 180 national competitions.

9.20 SUI NSO – Marius Marro

18 National competitions were organised in Switzerland 2017 and 2 venues organised international competitions, CIC1* at Frauenfeld and CIC2*/CIC1* in Lausanne. An additional CIC2*/CIC1* was planned in 2018 in Avenches.

No serious injuries were reported in 2017.

Two organisers used MIM frangible devices in National competitions and only one activation was recorded.

Mr Alfred Schwarzenbach, former International Eventing Rider, Sponsor and Patron of Swiss Eventing scene gave some observations in regards to Risk Management. It was felt that the objective of Risk Management should be to eliminate rotational falls as it was the falls where the most serious injuries occurred. All fences should be made frangible with poles falling like showjumping fences as it was the best way of making the sport safer. It was felt that the fixed fences should no longer be used.

9.21 SWE NF representative – Mats Andersson

Annex XI

The data recorded in Sweden for 2017 was 265 competitions for 5149 starters, 108 falls, 3 horse falls. No serious injuries were reported and 8 riders slight injuries and 3 horse slight injuries.

As from 2017, the rules required that frangible devices releasing from horizontal force be used as from H1* and P1* competition levels.

The adapted ground lines were questioned by certain trainers and how it could affect the education of horse and rider. A Seminar will be organised in March for Trainers, TDs and Course Designers to discuss the adapted groundlines, the DEN, NOR and FIN NFs were invited.

Guidelines for the management of concussion in sport was being used, similarly to what was done in other sports.

Mandatory suspension was implemented for horses having been refused at horse inspections and Veterinary health certificate attesting the horse's fitness was necessary before going back to competition.

The measurements for adapted groundlines was shown. The fence was measured from the ground to the fence of the nose, 2/3 of the measurement was the distance at which the ground line was to be placed. 1/3 of the measurement was used for the maximum height.

9.22 THA NSO – Nara Ketusingha

Two national competitions and 3-4 international competitions were organised in Thailand. Very few riders were competing. In 2017, the Asian Championship was organised and was a big success. The frangible devices were used and each rider was shown how the mechanism worked. Pattaya was the only international venue in Thailand which was extended for the Asian Championship. Since 2014, the top level rider Maxime Livio was coaching the riders.

9.23 USA NSO – Jonathan Holling

In the USA in 2017, there was an increase of competitions with the number of starters remaining stable.

The number of rider falls over the past years was stable whilst horse falls had reduced significantly over the last 5 years probably due to better education, course design and use of frangible devices.

The Safety Study with Kentucky University on a statistical analysis of impacts on what collision conditions caused rotational falls would be available soon.

In 2018, a pendulum testing system was being purchased to test frangible devices in the field and facilitate with the testing of new ideas.

The EquiRatings rating was available through USEA website providing athletes with their rating.

A study was being done using GPS monitors taking into account factors such as weather, horse experience, course design course distances, footing, topography of the course, fence type and location.

The USEF and the USEA were continuing the frangible device grant program. It had been in place for 8 years, with a 13'00 U\$ annual budget. Any event at preliminary level could apply for a 500 U\$ grant for frangible devices at their event.

A version of Adapted Ground lines was being developed in USA in the Guidelines. It was important to keep the flexibility for the Course Designers.