

2010 International Conference for the Health, Safety and Welfare of Jockeys (ICHSWJ)

The 2010 ICHSWJ took place in the Meydan Hotel, Dubai on 7th and 8th October courtesy of the Emirates Racing Authority. It was the most successful conference to date and was attended by 35 representatives from 14 countries (United Arab Emirates, Japan, South Africa, Australia, Qatar, Bahrain, Ireland, Great Britain, France, Germany, Sweden, USA, Hong Kong and South Korea). The agenda covered a wide range of topics including, research update and collaboration, bone density, concussion, prohibited substances and dehydration and featured presentations from 29 different speakers. For the first time there were also presentations from manufacturers of safety rails and air jackets.

Day One

(i) Research Update & Collaboration

Day one started with an interesting session featuring an update on research and the importance of research collaboration. The first speakers Dr. Mike Filby and Prof. Craig Jackson presented a paper on a stable staff injury survey which had been commissioned by the British Horseracing Authority (BHA). Mike Filby works with Racing Welfare in the UK and is involved amongst other things in the counseling of stable staff while Prof. Jackson is a professor of psychology in the University of Birmingham. Both were involved in the study, which was carried out in 2008. One of the main reasons why the study was carried out was that there is a distinct lack of data on injuries to stable staff while there is significantly more data available on injuries to horses.

The study results were based on replies received from 258 trainers, which represents a 36% response rate from the 716 questionnaires that were issued. Injuries were those recorded in the accident book. The study results were interesting. The total number of sick days lost through injuries (from the respondents) amounted to 7,431 and the average time off from work was 29 days. However there was no absence from work in 60% of the cases. 53% of the accidents were riding accidents and 95% of the riding accidents occurred on the gallops. 45% of accidents were as a result of falls from horses. The study found that younger workers were more accident-prone.

The second presentation came from Peta Hitchens who is a PhD student in the Menzies Research Institute in Australia and dealt with the prediction of jockey falls in flat racing. The study found that the fall rate for flat jockeys is 1 fall per 240 rides and that 27% of falls result in an injury. The study also found that there is on average 1 death per 620 falls. Surprisingly almost 37% of falls happen pre-race and only 24% of falls occur during the race. The average number of deaths per annum in Australian racing amounted to 1.27 deaths per year over the past 25 years.

Dr. Giles Warrington and SarahJane Cullen updated on the research being carried on in Ireland. Dr. Warrington is based in Applied Sports Performance Research Group School of Health and Human Performance at Dublin City University. He has been working with

Irish Jockeys for the past seven years and has carried out vast amounts of research into the challenges that jockeys face making and maintaining weight. He outlined the main issues that jockeys must contend with on a daily basis. He noted that research is currently being carried out in a number of areas including dehydration and Dr. Warrington said that he would provide further updates on this as part of the dehydration session. SarahJane Cullen provided a short update on the future research that will be carried out. These areas include research on the physiological demands and energy requirements of jockeys during horseracing and daily activities, impact forces on jockeys during horseracing and other occupational activities and determination of their relationship with bone health and the effects of dehydration on balance, coordination, high intensity anaerobic performance and motor and cognitive function. She outlined the benefits of each of the studies and the methodology that will be used. She said that jockeys appear to follow a chronically energy restricted lifestyle and that most lived and competed in a dehydrated state. She concluded by saying that the present research being carried out in Ireland will increase and optimize the health and performance of jockeys in the future.

The final presentation in this session came from Peta Hitchens and outlined the results from a physiological and fitness study carried out on jockeys and track work riders. The study found that jockeys had better balance, faster mean reaction times, lower fatigue index, and a higher estimated aerobic capacity than track work riders. It also found that it is possible to measure physiological attributes of jockeys and track work riders that are predictive of the risk of falling.

(ii) Country Updates – Part 1

Country updates have always been an important part of the conference. In this session attendees from each country are invited to update on the status of safety, health and welfare in their country. Updates were included as part of three different sessions. In the first session, updates were provided from Helena Gartner from the Svensk Gallop and Seungho Ryu from the Korean Racing Association. Ms. Gartner updated on a pilot study that is being carried out on jockeys in Sweden. The study will deal with the fitness and lifestyle of Swedish Jockeys. Its aim is to increase the understanding of the importance of a healthy life considering the hard physical work and the extreme stress for the body in the Scandinavian climate. It will also seek to help reduce the risk of diabetes, eating disorders, nutritional deficiencies, stress injuries, and osteoporosis by preventive measures in the areas of diet and exercise.

In his update on Korea, Seungho Ryu outlined the current standards that are in place that deal with the health safety and welfare of jockeys and their plans for the future which include the introduction of drug testing and a tightening of the standards that jockeys must meet before they will be issued with a licence.

(iii) Bone Density

One of the biggest problems that jockeys have to face as a result of the challenges of making weight are issues with bone density and the next session featured two

presentations on the subject. The first presentation came from Dr. Michael Turner who is the chief medical officer of the British Horseracing Authority (BHA). Michael has held the position since 1993 and has vast experience in this area. He presented the results of a study carried out on apprentice and conditional jockeys. It was indicative of the problems that flat jockeys have to face making weight that the results showed that the results from almost 50% of the male apprentice's showed abnormality and required urgent attention. The same problems did not exist with the conditional riders, as the weights they have to make over jumps are considerably higher than the flat equivalents. Dr. Turner also said that research carried out on retired jockeys indicated that the greatest incidence of problems with osteoporosis arose in retired flat jockeys while there are much fewer problems in this area with retired jump jockeys. Dr. Turner concluded by saying that there was a proposal being considered at present that there be mandatory bone density scanning carried out periodically on all apprentice jockeys from the time they enter racing so as any bone density problems can be identified at an early stage and addressed.

Dr. Adrian McGoldrick, Chief Medical Officer with the Irish Turf Club updated on the results of studies carried out in Ireland in this area. In particular he referred to a study where jockeys' bone density was compared to that of boxers. This study concluded that the difference in bone density may be due to the difference in bone size. Dr. McGoldrick also said that there is no evidence of a higher rate of injuries in jockeys who have lower bone density. Following a discussion on the issue it was agreed that educating jockeys was the way forward and that simple guidelines should be prepared which can be given to jockeys to help them to improve their bone density.

(iv) **Fitness to ride test**

Dr Caron Jander, National Medical Officer with the Australian Racing Board spoke about the problems that must be overcome in assessing whether or not a jockey can safely return to riding after an injury and in particular the difficulty assessing their fitness if there is no access to a simulator. In her presentation Dr. Jander outlined how other industries assess fitness in similar situations. She also outlined how a force plate transducer can be used for the test.

(v) **Management of raceday fatalities**

The final session before lunch on the first morning of the conference was presented by Dr. Michael Turner and dealt with the management of raceday fatalities. Dr. Turner noted that whether we like it or not fatalities are unfortunately part of racing. He referred to the fatality rates in a number of countries, which varied between 1 per 149,677 rides in Australia to 1 per 277,241 rides in the UK. He said that the BHA had developed a protocol to ensure that there were adequate medical facilities on track to deal with all injuries and that under the protocol a doctor is required to see an injured rider within one minute of the fall. He concluded by saying that there was no consensus as to whether or not racing should be stopped if there is a fatality.

(vi) Physiological and psychological status of apprentice jockeys

The first session after lunch was presented by Dr. David Greene and Dr. Justine Stynes from the School of Exercise Science at the Australian Catholic University and dealt with the physiological and psychological status of apprentice jockeys. They presented the results of studies carried out on apprentice jockeys, which mirrored the results of similar studies carried out in other countries. They found that many apprentices have disordered eating resulting in inadequate caloric intake and compromised bone health in certain areas. Dr. Justine Stynes dealt with the psychological status of apprentice jockeys and identified the main areas that put the most pressure on apprentices. She said that apprentices who are surrounded by a good support structure are less likely to suffer psychologically and that the biggest psychological issues that they have to overcome are wasting and a lack of social support.

(vii) Nutritional aspects of Jockeys health

The next presentation came from Gillian O'Loughlin who is a sports dietician who has worked with many of the leading jockeys in Ireland on dietary issues. She referred to studies that had been carried out on jockeys in Ireland, which found that there was a significant shortfall in the daily calories consumed, by jockeys. She said that the diets of many Irish Jockeys were lacking in energy and carbohydrates and low in dietary fibre. There was also inadequate protein and the majority of diets had a high level of saturated fats. The consequences of this were low muscle energy, dehydration, osteopenia and an impaired mental and emotional state. As a result of the findings there is now a greater focus on education, hydration, cookery classes, vitamin D calcium supplements and regular dexa scans. She concluded by saying that despite this there are obstacles to be overcome with a reluctance of some riders to embrace the changes. She also referred to a study that is taking place at present where the food input and energy output of some riders is being monitored. This study will involve the use of a sensecam, which will help improve the accuracy of the data.

(viii) Review of Article 27

Article 27 of the International Agreement of the International Federation of Horseracing Authorities is the article that deals with medical standards and fitness to ride. The BHA recently carried out a review of its standards and Dr. Michael Turner outlined the changes that they had made which took into account a number of practical issues that had to be addressed and which were not covered by the International Agreement. At the outset everyone agreed that it was very important that all countries have common medical regulations with regard to licensing of riders because it is entirely possible that a rider who is refused a license in one country on medical grounds could be licensed in another country with less stringent medical requirements and then present himself to ride in the country where he was refused a license and ride under his "foreign" license. Dr. Michael Turner then went through the various changes that had been introduced in Great Britain and it was agreed that the British "Fitness to Ride" standards should be circulated to all

countries for comment and that the comments will be considered by the European Doctors Group when they meet in early 2011 to review Article 27.

(ix) Health Safety and Welfare – a Jockeys perspective

The conference this year also featured the first ever presentation from a jockeys' representative association and it came from Jeff Johnston who is a regional manager with the Jockeys' Guild in Kentucky. In the presentation Jeff outlined the major issues facing jockeys in the USA in the area of safety equipment and weights. He said while considerable progress had been made in this area, a lot of work still needs to be done particularly with regard to the standards that must be met by a jockey prior to a license being issued. He noted that the majority of jockeys do not receive any formal training prior to being licensed. He acknowledged the improvements that had been made in the whole area of safety by the National Thoroughbred Racing Association (NTRA) and the Jockey Club Safety Committee and noted that many of the major tracks now comply with safety requirements which is a condition set by the NTRA prior to allowing graded races take place at a track. The presentation concluded with the most important issues being set out, which need to be addressed from a jockeys perspective namely continued improvements in safety product, increases in the weight scale and teaching of nutrition and improvements in the whole area of welfare.

(x) Country Updates - Part two

The final session of Day One of the conference featured country updates from South Africa and Hong Kong. Dr. Richard Albrecht provided the update from South Africa and said that in total there were 92 licensed jockeys, 48 apprentices and 17 certified work riders. He outlined the work that had been carried out by the Thoroughbred Racing and Development Centre which was set up in 1999 to improve the riding skills of all work riders and to discover any talent amongst work riders. He referred to the difficulties that needed to be addressed if the Cogspout concussion model was introduced. The main difficulty related to the cost of introducing the system. He noted that an accident report form had been introduced since the last conference. In conclusion he referred to glyco-nutrients and its healing powers.

Steve Railton, Secretary to the Licensing Committee and Stipendiary Steward provided the update from Hong Kong. He said that the Club licensed 24 jockeys and 24 trainers and referred to two safety changes that had been introduced since the previous conference relating to modifications to starting gates and the introduction of the "hot weather protocol". In relation to the starting gates he said that the back gate is now wider which gives more room to maneuver with the result that horses are easier to load. He also outlined how the "hot weather protocol" worked. He said that the main aim of the protocol was to limit sunlight exposure and that the main elements of the protocol involved a modification of raceday procedures in the areas of medical facilities and the use of shaded areas where possible in the parade ring and other areas for pre and post race activities. He said that the procedures had been developed as a result of the Club working closely with the jockeys.

Day 2

(xi) Computerised medical records

Day two of the conference started with a presentation from Dr. Michael Turner on the introduction of a computerised medical records system in Great Britain which would come on stream on 1st January 2011. He outlined how the system would work and the importance of injuries being accurately defined so as to get maximum benefit from it. He said that doctors would have online access to the relevant parts of each jockey's medical record and that it would be possible for doctors to post details of an injury sustained by a jockey on to the database direct from the racecourse to include such details as to whether or not a rider needed to be cleared prior to riding again. The system will also permit the Chief Medical Officer to monitor injuries and to remove alerts online if he clears an injured jockey to ride. The total cost of the system is in the region of £75,000.

(xii) Personal protective equipment

The second session dealt with personal protective equipment and the first part of the session was presented by Dr. Caron Jander and dealt with the replies to a questionnaire that was circulated in advance of the conference. Dr. Jander concluded that there is little or no uniformity in the different countries in relation to what equipment is allowed, how often it is checked and what safety equipment is mandatory for stall handlers and grooms. She also noted that there is no standard of any sort in place for goggles, riding boots and saddles.

Following the presentation by Dr. Jander, there was a presentation from Point Two which featured the new air jacket which can be used to replace the safety vest worn by jockeys. The presentation came from Paul Varnsberry, Lee Middleton and Dr. Jessica Evans and featured amongst other things a demonstration of how the air jacket worked. The air jacket is worn by the jockey and is attached to the saddle by a lanyard. Jockeys will need to modify their saddles by attaching a ring to the saddle so as it will be possible to hook the jacket to the saddle. The air jacket is inflated by the lanyard if the jockey falls off. It takes 0.1 seconds for the jacket to inflate.

Dr. Evans updated on the results of a survey which had been carried out with Event riders who have been using the jackets. She said that there were 192 responses to the questionnaire and from the responders' there were 95 falls. None of the riders who fell were hospitalised or injured and 99% of the riders who replied would recommend the use of the jacket. The cost of the jacket is in the region of £550 and the cost of a gas canister replacement is about £10-£15. It is expected that the jacket will be certified as meeting the European Standard in the next few weeks. There was a positive reaction to the jacket as it was felt that it would significantly reduce injuries. The main disadvantage of the jacket is that it will inflate if a rider falls off on the way to the start. However this could be addressed by not attaching the lanyard until the race is about to begin. The total weight of the jacket is in the region of 2lbs.

(xiii) Concussion and helmet safety equipment

The next session of the conference dealt with the whole area of concussion and helmet safety equipment and featured presentations from Dr. Huw Williams, Dr. Adrian McGoldrick and Dr. Benoit Le Masson who is the chief medical officer with France Galop.

Dr. Williams outlined the effects of concussion and the recovery period required for the various types of concussions. Dr. Adrian McGoldrick gave details of the steps involved in the introduction of a new concussion system which has recently been introduced in Ireland and outlined how the neuro-psychological baseline testing works. He also set out a comparison between how concussion is dealt with under the new system as opposed to the old system.

Dr. Le Masson gave details of how the French concussion system works which was introduced in 2005. At the outset he gave details of relevant statistics to set the background for the system such as the number of jockeys licensed, number of racecourses, fall rates, injury rates etc. He also gave details of the concussion statistics which show that in recent years the concussion rate in France is 1 concussion every 41 falls. He said that the French concussion protocol involved two stages namely a standard assessment of concussion at the racecourse by a doctor and a post concussion evaluation (fitness to return to race riding by an approved France Galop doctor). He outlined the tests and checks that are carried out at both stages and said that the minimum standing down period for a concussed jockey is 5 days. He concluded by saying that the protocol has improved concussion diagnosis.

(xiv) Prohibited Substances

Prohibited substances have become more and more important and the next session featured a presentation from Denis Egan on the results of a survey carried out on prohibited substances and summarised replies received to a questionnaire issued in advance of the conference. In total 22 countries replied and almost 1/3 of the respondent countries do not test for prohibited substances. The rate of positive results averaged 3.2% and the substances found included cannabinoids, diuretics, cocaine and amphetamines. There was variation in the prohibited lists used with some respondents using the WADA List while others used their own lists. Only 27% of respondents tested other individuals on a raceday and usually these tests covered stall handlers.

In relation to alcohol testing, 77% of all countries test for alcohol. However there is considerable variation in what constitutes a positive result with some countries having a zero tolerance policy while others allow up to 35 micrograms per 100 millilitres of breath before the test result is regarded as positive.

There was widespread agreement that every effort should be made to produce a harmonised list of prohibited substances and it was agreed that this matter would be discussed at the next meeting of the European Doctors Group.

(xv) Mawsafe Rails presentation

The final presentation before lunch came from representatives of Mawsafe and featured a video on the new safety running rail which has been introduced in Australia. The representatives also demonstrated the rail. The uprights of the rail are designed to click out easily if there is an impact which minimises the risk of injury to jockeys. The rails which do not splinter have been introduced at the various tracks in Victoria and have been enthusiastically received by the Australian jockeys.

(xvi) Dehydration

The final part of the conference featured presentations on dehydration, jockey spinal and fracture injuries and the remaining part of the country updates. At the outset of the dehydration session, Denis Egan presented figures on raceday dehydration levels in Irish Jockeys. The main presentation came from Dr. Giles Warrington and he outlined details of the research that has been carried out in this area in Ireland. He also focused on the main issues that need to be addressed in this area including the magnitude of dehydration in jockeys, implications of dehydration and what level of dehydration is appropriate. He outlined details of a study that had been carried out on Irish jockeys which examined the effect of dehydration on the cognitive function. He noted that previous studies in the general population had shown that the cognitive function is affected by dehydration and that the reduction in mental performance is proportional to the degree of dehydration and becomes significant with a 2% body weight loss. The study on jockeys showed that with a 4% reduction in body mass due to loss of fluids there was a clear impairment to physiological function and work capacity. However there was no discernible change to cognitive function. It also found that there was a significant increase in urine specific gravity. In view of the inconclusive findings he said that further research is recommended.

The second part of the dehydration presentation came from Dr. Caron Jander and examined what happens when heat stress is combined with dehydration and fatigue in riders. In her presentation Dr. Jander set out why there was concern about jockeys riding in hot weather particularly in view of the fact that the majority of them arrive at the track with weight commitments and dehydrated. She also explained why jockeys become fatigued from their workload. The presentation included procedures for jockeys, stewards and Race Clubs to be followed in the event of excessive temperatures. The procedures vary depending on whether the temperature is over or under 38 ° C. She concluded by stating that heat stroke and heat exhaustion can still occur in those who are well hydrated and that 80% of heat loss during exercise in the heat is through evaporation of sweat.

(xvii) Spinal injuries and fractures

The next set of presentations dealt with spinal injuries, shoulder injuries and fractures and came from Dr. Peter Wind Chief Medical Officer of the Direktorium in Germany and Dr. Benjamin Kienast who has worked on the racecourse as a medical officer. Dr. Wind gave

a short summary of the types of injuries that he has encountered during his 23 year career working on the racecourse which included three cases of total paraplegia and many cases of spinal injuries which did not result in paralysis. Dr. Kienast gave details of how to prevent and treat spinal injuries. He said that treatment starts at the scene of the accident and that it is very important to immobilise the injured rider so as to prevent further injury to the spinal cord. He also gave details of the different surgical methods available. He concluded by saying that Dorsal Spondylodesis with angular stable instrumentation is the “golden standard” for the primary treatment of spinal fractures.

Aki Akitani from the Japan Racing Association (JRA) presented a paper on the relationship between bone density and fracture and concluded that there is no direct relationship between bone density and fracture. Teruaki Yajima also from the JRA gave details of a physical training programme that has been designed for students to help improve their physical abilities. The programme also included the design of a conditioning programme for jockeys. The final part of the presentation came from Aki Akitani and dealt with the training of jockeys to fall so as to minimise injury.

(xviii) Country Updates – Part 3

The final presentations dealt with the remaining country updates. The first presentation came from Dr. Peter Wind. He said that there had been a considerable reduction in the use of banned substances by German jockeys and that good progress had been made in the standardisation of licensing procedures. Finally he said that work was progressing on the refinement of guidelines for rest periods after concussion.

Jamie Haydon, manager of Industry Initiatives from the Jockey Club provided the update from the USA. He outlined a number of new initiatives that have been introduced including the Jockeys Health Information System which is in use at all tracks. He also updated on the Riding Equipment Safety Committee which amongst other things tracks standards for racing equipment. Jamie noted that there were 34 different racing commissions each with its own rule book which made standardisation very difficult. He said that things would improve greatly if the commissions adopted the ARCI model rules. In conclusion he referred to the NTRA Safety and Integrity Alliance which has accredited 20 racetracks. These tracks represent 68% of all pari-mutuel handle in the US.

Dr. Adrian McGoldrick provided a short update from Ireland as most of the ongoing issues had already been discussed in the various presentations through out the conference. He said that the concussion protocol had been fully implemented and that within the next two weeks all 800 jockeys will have completed their baseline tests. He also said that a diabetic protocol will be implemented once it is approved by the stewards.

Dr. Michael Turner covered a number of issues that he had not mentioned as part of any of his presentations. He said that the protocol for a return to racing following a fractured clavicle which have now been validated. He also presented a short video on the testing of the new Gatehouse HS1 helmets.

Dr. Benoit Le Masson updated on the main topics in France. He outlined a number of rule modifications that have been introduced with regard to licensing of jockeys. He also outlined the procedures that are followed in the event that a jockey fails to be sampled and how positive findings are dealt with. He said that the list of prohibited substances has now been included in the standard of fitness to ride. In conclusion he said that a guide to good practices in horse management had been prepared and that it would be circulated to all stable yards.

Aki Akitani said that the wearing of a body protector will be mandatory in Japan next year. He said that it was optional this year during the summer due to heat. He also said the allowance for the body protector will be increased from ½ kg to 1kg next year.

Gerard Bush provided the update from the United Arab Emirates. He said that there are about 50 race meetings held annually and that 100 visiting jockeys are licensed made up of about 35 who are licensed for the season and 65 who are licensed for a short period. As a result of the conference he said that they would be introducing a questionnaire for visiting jockeys, He also said that there will be stricter controls on safety equipment.

Dr. Caron Jander updated on a number of changes which had been introduced in Australia and what her plans were for the future. She said that amongst her main aims was the setting up of a National Medical Network of fitness to ride medical examiners, the introduction of concussion guidelines and improvements to medical facilities at the racecourse and a review of personal protective equipment. She also said that she was planning to review critical incident management, and monitor human sample statistics.