

# **National Equine Forum**

**Selected summaries from the**

## **25<sup>th</sup> NATIONAL EQUINE FORUM**

**Thursday 2<sup>nd</sup> March 2017**

**The Institution of Mechanical Engineers  
One Birdcage Walk  
Westminster  
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**PLEASE NOTE**

These selected summaries will be updated as and when more become available. Please note, not all presenters wish to include information following their presentation.

Please check the website for the updated versions – details of the date of update will be included on the front page. Information will also be posted on the Forum's Facebook page and Twitter account. [www.nationalequineforum.com](http://www.nationalequineforum.com)

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## THE HORSE INDUSTRY IN A CHANGING WORLD

The Defra View

**Lord Gardiner**, Parliamentary Under Secretary of State for Rural Affairs and Biosecurity, Defra

Your Royal Highness, my Lords, Ladies and Gentlemen. This morning brings back strong and positive memories of my own attendance at this Forum over many years. Sir Colin Spedding kept all up to the mark and some Confucian or was it Delphic quote from him “concluded proceedings”?!

It is therefore a great honour to have this opportunity as Minister responsible for animal health and welfare, to address this distinguished audience, representing a sector very close to my heart. As a long-standing member of the British Horse Society, a hunt chairman for 14 seasons, and with a point-to-point course for 105 years on the family farm, the horse has played a substantial role in my and my family’s life. I cannot adequately describe the pleasure, exhilaration and occasional grief from being in the saddle – to being thrown out of it. It has been my experience that the equine sector always brings energy and determination to its work. Indeed, as a hunt chairman, my annual meetings with eight Pony Club branches were memorable in that regard. My recent visit to the Horse Trust in Buckinghamshire also reminded me of the debt we owe these animals for their public service. I am delighted I have had the opportunity to meet many of you since my appointment and I look forward to our further exchanges.

### Praise for the success of British equestrians

We can all be so proud of our equestrians representing our country at the Olympics and Paralympics in Rio last summer. Between them bringing home nine gold medals and five silvers in the Equestrian events. It shows what can be achieved with immense commitment and hard work and is an inspiration to future generations. It is important, in recognising our human athletes, that we accord our admiration for the equine athletes too. Charlotte Dujardin’s “Valegro” and Nick Skelton’s “Big Star” come to mind.

### Overview of Defra’s relationship with the equine sector

The UK equestrian sector plays a significant role in our national and rural economies and helps support the social fabric of rural communities. It sets a global standard with its exceptionally high level of expertise that is recognised around the world and which has encouraged a strong and successful export market.

I was pleased to see that the Equine Sector Council and the British Horse Industry Confederation recently issued their joint “Mid-term Manifesto for the Horse 2017”. How impressive it is that the equine industry in the UK contributes £8 billion a year to the economy and that it is the second-largest rural employer after agriculture. This is an excellent example of the sector working together to deliver

long-term benefits for the horse. A day at Tattersall's highlights just how intertwined and valuable the industry is to the rural economy.

### EU exit

Your manifesto is important because, at a time of change, and as we seek a new and equal partnership between our country and our friends and allies in the European Union, it looks to the future. Defra is mindful of the many issues that affect the equine sector as we move forwards in a changing political landscape, be it the Tripartite agreement, the issuing of passports and exports to name a few.

### Introduction of new Domestic Regulation on Equine ID and Consultation

I know that there has been frustration as to the length of time it has taken to implement the new EU Regulation on equine identification into domestic legislation. It is important that we get this right in order to strengthen further our identification regime. Defra will be launching a consultation on our proposals shortly. It is essential that we hear your views on how best to implement the new Regulation and this will become equally important for when we leave the EU.

One important point which we will be consulting on, and where I know views are mixed, is whether we should require older horses to be microchipped. While this would make the regime more effective, building on the enormous contribution that microchipping has already made, we appreciate that there are some practical challenges around retrospectively linking microchip numbers to existing records.

We will also be seeking your views on how we can improve the enforcement regime, to make it easier for enforcement bodies to take action against the very small minority who deliberately flout the law and who threaten the integrity and reputation of an otherwise first class sector.

### Introduction of Central Equine Database

Working in parallel, we are now also in the final stages of delivering the Central Equine Database which will hold horse passport data for all equines in the UK.

The UK database will be an invaluable tool in helping ensure the regime works effectively in protecting the human food chain, and animal welfare. As long as an owner has correctly identified their horse, Local Authorities will be able to trace owners of horses found to be abandoned or straying and take the appropriate action. It will also be used by the Food Standards Agency when they carry out checks at slaughterhouses.

The very helpful and constructive feedback from many parts of the sector during its development, especially those Passport Issuing Organisations, is much appreciated. I understand the concern about

the time this is taking. As for any new IT system, we consider it prudent to road-test the database to ensure we deliver a high-quality end-product that works for everyone. This month, we will therefore be working closely in partnership with a trial group of PIOs. We expect the database to be fully operational for all users, as well as for statutory agencies and enforcers, by the summer.

You will shortly hear more on the database from Stewart Everett of Equine Register, the company contracted to deliver the database for government.

### Horse welfare code

Horse welfare matters hugely to all of us. The Government's responsibility is to ensure that the right laws are in place to secure our horses' welfare. You will be aware that one of the key documents that sits alongside the Animal Welfare Act 2006 is the statutory *Code of Practice for the Welfare of Horses, Ponies, Donkeys and Their Hybrids* - the "Horse Code" as it is known.

Last year, the Equine Sector Council very helpfully went through the Horse code suggesting where it could be updated. These changes have been taken on board and we hope that a new updated Horse Code can be presented to Parliament later this year.

May I take this opportunity to thank the Equine Sector Council for their work on the Horse Code.

### CCTV in Slaughterhouses

I know many people today support the idea of requiring mandatory CCTV in all slaughterhouses and in particular equine slaughterhouses, as a way of providing assurance that all animals have a good death. I understand that currently 99% of equines are slaughtered in premises which have CCTV in place. I agree that CCTV can and does have a useful role to play and I am keeping our policy on whether it should be mandatory for all slaughterhouses under review.

However, regardless of whether there is CCTV in slaughterhouses, there are clear legal obligations on all operators to have appropriate monitoring procedures in place for all slaughter operations. And, of course, Official Veterinarians of the Food Standards Agency are present during slaughter operations to monitor and enforce animal health and welfare regulations.

### Animal Establishments Licensing Schemes

On 2 February, we published our proposals to modernise the Animal Establishments Licensing Schemes. This includes the laws that regulate riding establishments.

Whilst the laws on the control of riding establishments have largely kept pace with modern trends in the operation of riding schools, there will be some changes.

Local authorities will be able to issue licences for up to three years' duration based on the risk of the individual establishment's likelihood of complying with the regulations and minimum standards.

They will also be able to issue licenses from any time of the year.

Operators of licensed riding establishments will still be required to maintain minimum welfare standards which will be set out in the regulations.

We are aiming to have the new regulations in place next year.

### Closing Remarks

Building on improving our joint partnership will help us to identify the most effective ways of tackling the challenges from anti-microbial resistance (AMR) and the need for biosecurity. I would like to take this opportunity to acknowledge and praise the high standard of work and care carried out by equine veterinarians across the sector. I am delighted that Graeme Cooke, Defra's Deputy Chief Veterinary Officer, will be speaking to you later on these issues.

Throughout our history the horse has been pivotal to our human success. The horse – in art, in poetry, in literature – and alas in war. The horse is so important to so many elements of British life. Whether for personal enjoyment from riding, hunting, competing at all levels of levels – eventing, showing, dressage, racing on the flat and the national hunt, riding for the disabled – in agriculture, forestry, or helping our police to maintain law and order on the streets and our armed forces. All of us here today wish to further the interests of the horse. These activities reflect the diversity of horses we have; lightweight, middleweights and heavyweights, from iconic and alas rare breeds such as the Suffolk Punch, our moorland ponies to the thoroughbred.

We have the responsibility for their wellbeing. My purpose is to secure that wellbeing in every sense and I look forward to working in partnership with you all to that end.

ENDS



Central Equine Database update

**Stewart Everett**, Chief Executive, Equine Register

Found on following page



### CENTRAL EQUINE DATABASE

The new CED will store mandatory horse identity information provided by the UK's Passport Issuing Organisations (PIOs).

The primary purpose of the CED is to secure the human food-chain, whilst also enabling Local Authorities, Food Standards and welfare agencies to deal with lost, fly-grazed or abandoned horses, and combat criminal activity. Defra will also use the CED to underpin its disease management strategies.

Defra expect the CED to be launched in summer 2017 in conjunction with Equine Register's Public Chip Checker, Veterinary Application and real-time biometric equine Digital Passport System.



### PUBLIC CHIP CHECKER

Equine Register will launch the Public Chip Checker to coincide with the launch of the CED. The Public Chip Checker is free-to-use and allows the general public to check an equine's microchip number, and receive information on the equine's PIO along with other basic identifying data.

The Public Chip Checker will encourage public involvement in identifying and tracing equines, will increase confidence in the data, and will promote compliance with the CED.

The Public Chip Checker will be hosted on Equine Register's website and will be available free on all devices. In the future, it could include, amongst other things, an alert section on equines that are reported as missing, stolen or dead.



### VETS APP

Vets have a legal requirement to prove that they have identified an animal before they treat it. They also have an operational requirement to check an animal's food chain status before they administer controlled drugs. The Equine Register Vet App allows access to this information in the field delivering legal compliance and increased food chain security.

Equine Register has worked closely with vets to bring this process into the 21st century and develop a unique and user-friendly app which:

- Allows vets to quickly and easily identify an animal
- Provides important food chain and biosecurity information
- Incorporates intelligent automatic data input
- Enables vets to be compliant with UK and EU Laws
- Maintains data integrity





### DIGITAL PASSPORT SYSTEM

Equine Register's Digital Passport System links the PIO with the Owner and the Vet. Using real-time secure biometric data, the system promotes legal compliance for all Users, ensures data integrity and puts Britain at the forefront of animal identification and traceability.

### LINKING VETS TO OWNERS TO PASSPORT ISSUING ORGS



- Increased compliance for all
- Verified information

- 'Speedy Digital' from the field
- Up-to-date information

- CED Ready
- Accurate data



### ABOUT EQUINE REGISTER

Equine Register is the leading provider of national identification, registration and intelligence services to the equine industry and governments. It is Defra's partner in delivering and managing the Central Equine Database (CED) on behalf of the UK Government and Devolved Administrations.

Working closely with the equine sector, Equine Register has developed a series of bespoke digital tools that enable secure, real-time access to vital animal identification and traceability data. These tools promote compliance and good owner practices, increase animal welfare and value, and help secure the human food-chain and national borders, all whilst reducing criminal activity.

Equine Register's cutting-edge patented technology will position the UK at the forefront of animal traceability and biosecurity playing a key role in the launch of Brand Britain following EU Exit.



For more information, please contact:

Equine Register on 03330 100 145  
[info@equineregister.co.uk](mailto:info@equineregister.co.uk)

## Business rates

**Sarah Phillips**, Chief Operating Officer, British Horse Society

On the 1 April the new Rateable Values for all businesses will come into effect. You will be only too aware of the devastating effect this is having on many equestrian businesses. The BHS are still campaigning, on your behalf, to get a fair deal for riding schools and livery yards when it comes to Business Rates. In recent weeks we have;

- Met with the CEO, Chief Valuer and Specialist Valuer of the VOA to discuss the valuation process and raise our concerns.
- Met with Marcus Jones MP – Parliamentary Under-Secretary of State (Department for Communities and Local Government) – to explain our concerns regarding the increase in Rateable Values. Whilst no promises were made the meeting was positive and concerns registered. Marcus Jones reported that he had received more letters from riding schools, concerning Business Rates, than any other business sector.
- Held an Awareness Raising Meeting with MPs. This was attended by over 30 MPs along with riding school proprietors, and representatives from the British Horse Racing Authority, Sport and Recreation Alliance, Country Landowners Association, PLMR and World Horse Welfare.
- Met with the All Party Parliamentary Group for the Horse to discuss the next steps for the campaign.
- Presented to the National Equine Forum, including HRH The Princess Royal, the challenges which riding schools and livery yards are facing due to Business Rates.

In the Budget on 8 March the Chancellor announced a little good news to help small businesses;

- Any business which qualified for Small Business Rate Relief will see their Business Rates invoice increase by no more than £50 per month.
- Local Authorities will be awarded £300,000,000 to use as discretionary relief to support Small Businesses. This discretionary relief fund will be divided between 326 billing authorities and phased over four years.
- An announcement was also made that the Business Rates system would be reviewed to ensure that the same anomalies, of certain businesses sectors experiencing greater rises, would be avoided at the next revaluation.

What the BHS will be doing next;

- Submitting a response to the Government consultation on the design and implementation of the locally administered Business Rates Relief Scheme. This will ensure that riding schools and livery yards will be fairly represented and considered along with other small businesses.
- Seeking clarification on how the £50 per month cap will be rolled out to businesses falling in the Small Business Rate Relief category.
- Forming a Task Force across the equine and rural sectors to continue with the campaign.

What you need to do next;

- Check, Challenge, Appeal. Check that the areas and facilities recorded by the VOA for your property are correct. If you believe these to be wrong contact the VOA. Challenge the Rateable Values which have been applied to the individual facilities on your property. You will need to have rental / valuation evidence of similar properties in your area and also put your case as to why the increases are unreasonable. If your challenge is unsuccessful you should then be prepared to Appeal. Details of the process can be found here <https://www.gov.uk/correct-your-business-rates>
- Don't forget all BHS Approved Centres have access to the Business Support helplines including the specialist rating support helpline offered by Clifford, Tee and Gale 01293 569857

Please help to keep the momentum going with this campaign by writing to your MP if you have not already done so.

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## Horserace Betting Levy Replacement

**Ross Hamilton**, Corporate Affairs Manager, British Horseracing Authority

The British Thoroughbred horseracing industry – worth £3.5 billion annually to the British economy and supporting tens of thousands of jobs across rural Britain – is delighted with the Government's proposals to introduce a critical replacement to the industry's central funding mechanism from betting activity, the Horserace Betting Levy, from April 2017.

The Horserace Betting Levy has been in place since the 1960s and recognises, in line with international precedent, the common interest of the racing and betting industries in a sustainably funded horseracing sector. The Levy provides critical funding for prize money, integrity provision, staff recruitment and training, veterinary science research and education and the protection of rare breeds.

The Levy has, however, been unable to keep pace with the digital revolution in betting activity on horseracing, with over half of all betting activity on the sport now taking place online with betting operators based offshore. This means the statutory Levy yield has declined from an average of £106 million in the middle of the last decade to a forecast less than £50 million in 2016-17, despite betting activity growing overall. Lower receipts have had an impact on all of the areas funded by the Horserace Betting Levy, and it is unsustainable for British racing to function at its current scale on such a low return.

The Department for Culture, Media and Sport (DCMS) is therefore introducing a replacement for the Horserace Betting Levy, which will capture a fair return from all betting activity on British racing, to take effect from April. DCMS [confirmed in January](#) that the new Levy will be charged at 10% of a betting operator's gross win on British racing (for a period of up to seven years) which will restore the annual Levy yield to an estimated £85-£90 million.

In early 2018, the Horserace Betting Levy Board's functions for collection and distribution of the Levy will be respectively transferred to the Gambling Commission and a new Racing Authority (representative of the British Horseracing Authority, British racecourses and Thoroughbred horsemen). We understand that the Statutory Objectives of the Levy will remain in place.

Since the National Equine Forum, DCMS has now published the draft [Horserace Betting Levy Regulations 2017](#) which will enact the initial changes to extend the Horserace Betting Levy to all operators. These changes require European Commission clearance. Further consultation on the wider changes will follow later in 2017.

The Levy replacement will provide more certainty of income from betting activity and will allow the new Racing Authority to better plan expenditure in the medium to long term, making multi-year commitments on all aspects of expenditure – including veterinary research and rare breeds funding – much easier to make. There will not be a dramatic uplift in expenditure initially while reserves, badly depleted in recent years, are restored but this is in contrast to the cuts which would otherwise have been required. There

will be continuity in broad heads of expenditure in the short to medium term while we will also look at ways to incorporate best practice from other areas of research in the future arrangements.

The Levy replacement gives British racing great cause for optimism and the platform for ambitious growth. A healthy racing sector will benefit the rural economy and wider horse sector in the years to come.

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## **TACK: AN ANATOMICAL PERSPECTIVE**

Tack fit and its impact on the horse

**Dr Sue Dyson**, Head of Clinical Orthopaedics, Centre for Equine Studies, Animal Health Trust

There are many manifestations of ill-fitting saddles. The saddle may be out of balance: tipping forward or backward, bouncing, or oscillating from side to side. There may be inadequate clearance of spinous processes because the saddle is poorly flocked, the tree is too wide, or the gullet is too narrow. Any of these features can be magnified by the use of thick numnahs or saddle pads, or a numnah which collapses on the horse's spine. A tree which is too narrow may result in focal pressure from tree points and /or the twist of the gullet. A wide caudal gusset can impinge on the lumbar transverse processes and restrict lateral bending. A saddle that is too far forward will interfere with movement of the scapulae and the function of the muscles of the thoracic girdle. An ill-fitting girth can create focal pain. Gel pads can create heat and friction burns. Ill-fitting numnahs can create ridges of pressure.

A saddle which does not fit the rider may impair their ability to ride in balance with the horse and influence the forces transmitted to the horse's back. The saddle must allow the rider to sit in the lowest part of the seat of the saddle, with alignment of their shoulder, 'hip' and heel. If the seat tips forwards or backwards or is too short for the rider then their ability to be in rhythm and close to the horse's centre of gravity will be compromised.

The use of an ill-fitting saddle can have both short-term and long-term implications for the horse. Early warning signs include muscle soreness under the saddle. The horse may flinch when being groomed, or behave abnormally when being tacked up. This may be manifest as the horse moving to the back of the stable when the rider approaches with the tack, the horse fidgeting when being tacked up, putting its ears back and threatening to bite or kick. The horse may become hypersensitive to touch especially in the wither area and sometimes around the girth. This may in part be due to the phenomenon called wind up. There may be swellings under the saddle panels after exercise. A soft swelling on the dorsal midline may appear transiently after ridden exercise may be associated with a narrow twist. Dry patches, especially under the front of the saddle surrounded by sweat after exercise, reflect focal pressure. Dry patches on the dorsal midline surrounded by sweat after exercise could indicate too many layers or too thick a layer beneath the saddle, filling up the gullet and pressing on the spinous processes. If the saddle is moving too much during exercise the hair under the saddle becomes ruffled; this is usually most obvious under the front of the saddle. If the back of the saddle moves excessively it may physically abrade the skin resulting in scabby skin lesions. The binding on a numnah can create similar lesions.

Longer term indicators of poor saddle fit include muscle atrophy under the saddle, especially caudal to the scapulae resulting in depressions. These may reflect a chronically poorly-fitted saddle and pressure points. Generalised muscle atrophy may reflect back stiffness and lack of proper function as the result of pain induced by the saddle-rider combination. In a young horse a chronically ill-fitting saddle may



compromise back function resulting in failure of the epaxial muscles to develop properly. Careful palpation may reveal adhesions between the skin and underlying fascia; the skin cannot be moved over the fascia. Alternatively there may be deeper areas of fibrosis. White hairs appear when pressure (and perhaps heat or friction) has injured the hair follicles. However, these usually do not appear until the hair coat changes. A common site is in the region of the tree points or the twist of the saddle (the narrowest part). Ill-fitting rugs can also result in the development of white hairs, especially on the dorsal midline caudal to the withers. The hair under the saddle may become permanently curly, rather like the hair on limbs which are constantly bandaged. Abnormal movement of the saddle or ill-fitting numnahs may result in abnormal hair wear which may be most obvious in the winter, usually under the back of the saddle. Mild symmetrical hair wear can be normal, but asymmetrical hair wear usually reflects abnormal saddle movement. If the saddle constantly slips to the left, the result of asymmetry of the horse's musculature, an ill-fitting saddle, a crooked rider or hindlimb lameness, then hair wear will be asymmetrical. There will be a focal patch of intense hair wear close to the dorsal midline on the right and a more diffuse patch of less intensely worn hair further away from the dorsal midline to the left. The flocking in the saddle may become compressed on the side to which the saddle slips, which may be misconstrued as the cause of saddle slip, whereas hindlimb lameness is the most common cause (Greve and Dyson 2013, 2014).

With respect to the horse's performance, the consequences of an ill-fitting saddle include a restricted forelimb step length, back stiffness, overall shortness of step, unwillingness to bend, and a tendency to become above the bit. These are obviously non-specific signs, but their presence indicate that saddle fit should be assessed.

Horses are not static in their shape. There is evidence that exercise can induce transient increases in the dimensions of a horse's back presuming that the saddle  $\pm$  pads and numnahs fit appropriately and the horse is working correctly i.e., 'on the bit' (Greve et al., 2015). These changes were measured at four predetermined locations, the shoulder (a point 1/3 of the distance between the point of the elbow and the point of the shoulder, and at the eighth [T8], thirteenth [T13] and eighteenth [T18] thoracic vertebrae), at 3 and 15 cm ventral to the dorsal midline. Within a 30 minute exercise period the mean dimensions changed between 1 and 1.5 cm (more caudally than cranially). An ill-fitting saddle prevented these changes occurring, which may have long term consequences for muscle development and performance.

Back dimensions also alter over time. In a longitudinal study of 104 sports horses monitored every two months over one year, with measurements acquired at the shoulder, T8, 13 and 18, there were considerable variations in back dimensions over 1 year (Greve and Dyson 2015). The presence of gait abnormalities at the initial examination or pre-existing back asymmetry had a negative effect on changes in back dimensions. Subsequent improved saddle fit, similar or increased work intensity, season (summer versus winter) and increased bodyweight had positive effects on changes in back dimensions. It is therefore concluded that because quantifiable changes in back dimensions occur throughout the year, saddle fit should be reassessed professionally several times a year, especially if there has been a change in work intensity.

## References and further reading

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The anatomy of the equine head in relation to tack usage and fit

**Neil Townsend**, RCVS Recognised Specialist in Equine Surgery and Equine Dentistry, Three Counties Equine Hospital

Not yet submitted

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## Bitting and the welfare and comfort of the horse

**Dr Caroline Benoist**, Manager of Research and Education, The Academy at Neue Schule

When it comes to the field of “bits and bitting” – what we like to call “lorinery science” there appears to be a fair amount of misinformation and a general lack of understanding in regards to the action of bits. The current gap in rigorous scientific knowledge within the bitting industry has severe ramifications for equine welfare, ranging from a lack of knowledge that results in the oblivious use of severe bits, to the use of escalating severity in bits in an attempt to cover up training faults.

The bit is a major concern for equine welfare when it comes to tack due to injuries caused by mouthpieces, ill-fitting or inappropriate bits which – when the horse reaches a sufficient pain threshold – can cause the horse to seek evasions such as raising the head which causes the back to extend and creates problems throughout the horse (Le Simple, et al. 2010) and can also cause more localized injuries such as ischemic (blue) tongue, and severe tissue injuries. This holds true for the school horse through FEI level horse.

According to a recent study (Horseman, et al. 2016), lack of knowledge is perceived to be a root cause of poor horse welfare. The lorinery industry must therefore bear the responsibility of educating the equestrian industry in regards to bits and bitting in an effort to improve the welfare of the horse.

By laying down the foundations and intricacies of lorinery science we can help not only enlighten the rider to make informed choices when choosing an appropriate bit, we can also educate and inform committees to help them decide on the legality of bits by basing it on peer-reviewed research.

This can only begin with a fundamental understanding of the field of lorinery science – where sound science is trickled down to the lay-person through (revised) rule books and popular literature that can give reliable advice.

We can begin our education with a persistent misconception, one that is taught in the Pony Club manual. I am referring to the French-link and Dr. Bristol mouth pieces where the received wisdom is that the former is ‘kind’ and the latter, ‘severe’. By looking more closely at the situation it can readily be seen that in fact the situation is reversed. It is the narrow edge of the French-link that presses into the horse’s tongue and not that of the Dr. Bristol.

This becomes clear only when one understands the action of the bit under rein tension and examines the features on the mouthpiece. By simply observing the central plate of the French-link mouthpiece it can be seen that this feature aligns parallel to the bore axis, that is the where the cheekpieces attach to the mouthpiece – in the case of a loose ring bit this would be the axis of the hole through which the rings slide – therefore we can say that the angle between the two is zero degrees. This means that the plate will rotate in alignment with the bit. By now looking closely at the Dr. Bristol mouthpiece, which when it is correctly designed has the central plate angled at 135 degrees to the bore axis, it should be clear that when the bit rotates under rein tension that the final position of the feature will be very different to that of the French-link. It is in fact the opposite, with a more formal analysis we can calculate the central plate of the Dr. Bristol to lie within 10 degrees of the surface of the tongue – in

other words the broad surface of the link lies flat onto the tongue when it is under rein tension, which is exactly what Dr. Bristol intended.

Until this is accepted by governing committees, and it is changed in the Pony Club manual and exams, which continue to force students to mark down the incorrect response, this misconception will remain pervasive to the detriment of our horses.

The Dr. Bristol can be fitted two ways. In the instance that the Dr. Bristol is fitted correctly, with the plate lying flat on the tongue, we find that the loops are pressing into the tongue. Whereas an incorrectly fitted Dr. Bristol emulates a French-link bit and the flat edge of the plate presses into the tongue. Neither situation is particularly desirable for the horse and this is why we must learn to educate ourselves on the precise mechanism of action for bits and learn to understand how we can determine what is pressing on the horse's tongue – particularly if we are going to be tying the mouth shut.

It is important to also understand the relevant structures of the mouth before considering the precise mechanism of action of the bit. The tongue occupies the majority of space in the oral cavity and covers the bars thus protecting them – unless the tongue is retracted in which case the bars will be exposed to the bit. The palatine arch is narrow and the distance between it and the tongue is very small. The distance between the upper and lower jaws is also very small. On average it is 34 mm and this can vary between the left and the right side, it can be as low as 25 mm and if we consider yet another common myth, the one that says a thicker mouthpiece is kinder than a thinner one then we need to appreciate that some mouthpieces have a diameter of 23 mm – only 2 mm less than space allows.

Upon placing a bit inside a horse's mouth the tongue becomes compressed and has nowhere to go other than to the bony floor of the mouth, so it should not be a surprise to as to why some horses retract their tongues or stick them out. Our response to that is to tie their mouths shut thereby causing further damage inside the mouth. This practice can also result in crush injuries to the blood vessels and nerves that run nearby and in severe cases it can lead to localized ischemia.

Now that it is understood how a bit without rein tension affects the tongue, we can look at what happens when the bit is placed under rein tension. With 2kg of rein tension one can see the bit is translating along the tongue towards the teeth while causing further indentation and slight bulging of the tongue behind the bit. Under 4kg of rein tension the bit is seen to move even closer to the teeth, and indentation and bulging of the tongue are increased. These are typical rein tensions for every day riders however rein tension values well above these values have been observed and therefore we should consider the effects that this might have inside the horse's mouth, and then reflect on what is happening when nosebands and flash straps are severely over-tightened.

Let's now look at the shape of a mouthpiece. Simple physics dictates that thicker objects with large radii generate lower pressure by providing a larger weight-bearing surface, while objects with small radii or narrow points will produce high and localized pressure. Designing a mouthpiece with a large weight bearing surface will distribute the pressure more evenly and create very little of it.

By applying Young's Modulus, which measures the extent to which an object compresses based on its elasticity, we can estimate the extent to which a feature on the mouthpiece compresses the tongue. Depending on the thickness and orientation of the cannons, a compression of nearly 50% of the tongue tissue is measured. In the case of flatter and broader cannons, tissue compression can be reduced to a

mere 16%. Note that these values were calculated under 500g of rein tension and therefore do not resemble normal riding circumstances during which the full thickness of the tongue tissue is compressed.

One last thought in terms of biting to consider is poll pressure. Before considering poll pressure however, we need to understand the concept of poll-relief which is what occurs when the hotly debated baucher bit is used. There will always be some amount of poll-pressure when the bit is hanging from the cheek-piece and the cheek-piece is tensioned. This can be set to zero and then any forces through the reins onto the poll can be measured using strain gauges. Because the baucher cheek does not have a lever action – there is no lever – we see a poll-relief effect up to approximately 3kg of rein tension. This is because the bit is lifting – or translating- along the tongue as the mouthpiece rotates in an anti-clockwise manner thereby lifting the cheek-pieces and creating the poll-relief effect. At rein tensions beyond 3 kg cheek-piece pre-tension is re-established.

Levered bits do produce poll-pressure, the amount of which depends on the length of the shanks (the longer the shank the more leverage that will be produced). Based on simple mechanical principles we would expect a 7 cm Weymouth to put 1.5 times the rein forces onto the poll; so that with increasing rein tension the poll pressure would increase 1.5 times. Fortunately, we do not see this simply because there is no perfect fulcrum on which the lever can act, and this was first observed in 1907 by Frank Swales, inventor of the Swales bit, when he realized that the lips of the horse stretch. The result is therefore a significant attenuation of the lever effect. Furthermore, we have observed that beyond 1 kg of rein tension no further poll-pressure is produced when a properly fitted curb chain is in use. The curb chain should prevent the Weymouth from rotating further than 45 degrees, which typically comes into effect when 1 kg of rein tension is applied where after any further amount of rein tension will be distributed among the tongue, lips, poll and now chin groove of the horse.

One final thought is the idea of poll pressure without rein tension. We see occasionally see this in the case of double bridles where can clearly see low poll pressure values at low rein tensions. However, with the addition of the bridoon we can see significant poll pressure at very low rein tension values. This is likely caused by the bridoon acting on the curb, which we call trapping, and sends conflicting signals to the horse when the curb rein is not in use.

## MEMORIAL LECTURE

The role of the Thoroughbred Health Network in the UK

**Dr Tim Parkin**, Head of Division of Equine Clinical Sciences and Clinical Director of the Weipers Centre Equine Hospital, University of Glasgow

As identified in today's panel discussion, there is currently a disconnect between scientific research and the end user. The role of the *FREE Thoroughbred Health Network* is to bridge that gap and to help make research findings more accessible by translating research into simple key messages, based upon the strength of scientific evidence available.

The *THN* commenced as a 3 year pilot project with thanks to The Racing Foundation and the Scottish Society for Prevention of Cruelty to Animals (SSPCA), whom currently co-fund the initiative. To comply with the funding obligations, the *THN* initially focused on racehorse health and was geographically restricted to Scotland and Northern England. Fifteen racecourses were visited to speak to racehorse trainers, owners and vets to identify how the *THN* could be developed to best fit their interests. A website was then developed to act as an online platform to relay research summaries. The *THN* is now in its third year of growth and it has become clear that the online website is achieving an international reach and is attracting not only those interested in racehorse health, but all horse health. This has led to today's expansion of the *THN* which will now be promoted as a UK wide initiative that will consider common health problems for all horses, not just racehorses.

The primary objectives of the *THN* remain the same, just with a wider focus. These objectives are to:

- Establish a network of those whose common goal is to minimise the impact of equine injury and disease.
- Translate all available research on the most common health and performance-limiting problems into easily understandable key points to maximise the health of horses.

Visit our website: [www.thoroughbredhealthnetwork.co.uk](http://www.thoroughbredhealthnetwork.co.uk)

Follow us on Twitter: [@ThoroughbredHN](https://twitter.com/ThoroughbredHN)

Like us on Facebook: [The Thoroughbred Health Network](https://www.facebook.com/TheThoroughbredHealthNetwork)

Subscribe to our YouTube channel: [Thoroughbred Health Network](https://www.youtube.com/channel/UCThoroughbredHealthNetwork)

### Using research to create impact

The long term focus of the *THN* is injury and disease prevention i.e. how can we use the research available to educate the end user with regards to lowering the risks of common injuries and diseases? For example

we might ask: What are the risk factors for a tendon injury, a stress fracture, ulcers etc? And is there good scientific evidence to support actions which may mitigate those risks?

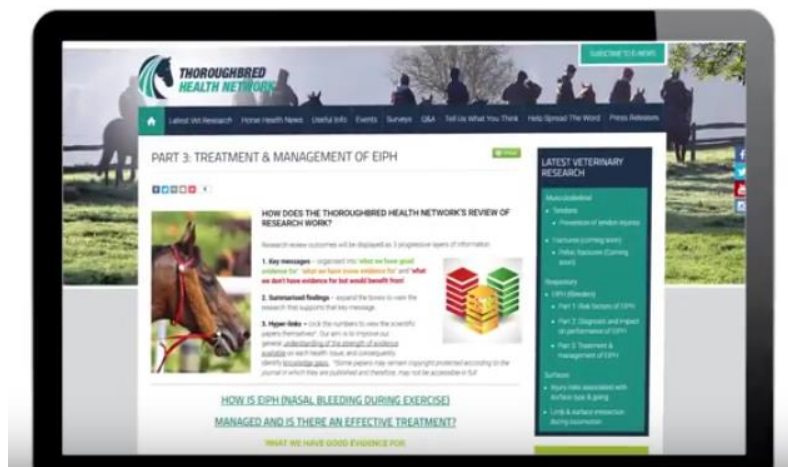
### Why subscribe?

The *THN's* website is FREE to everyone. There is a plethora of research currently available and yet so many of those interested in horse health do not have:-

- access to the academic literature,
- the skills to critically analyse research in terms of the quality of scientific evidence available,
- the time to read and summarise thousands of scientific papers into easily digestible points they can put into practice.

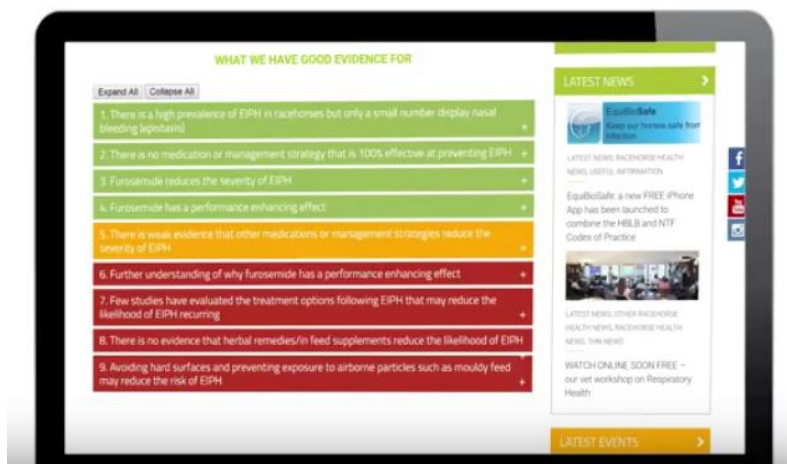
In other words, the *THN* aims to cater for those with different levels of understanding or interest and this is achieved by the online research review being interactive. Each research review is summarised into 5-10 key points, which are colour coded by the strength of scientific evidence available. The reader can click to expand for further details, as much or as little as they wish, tracing back to the original academic papers for those interested.

## FREE SUBSCRIPTION

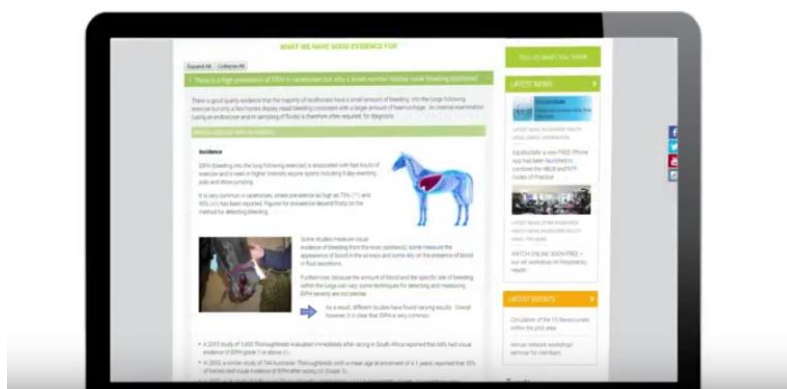




## FREE RESEARCH REVIEWS



## FREE EASY-TO-READ KEY MESSAGES FROM SCIENTIFIC PAPERS



### Closing Remarks

It is FREE to subscribe to the [www.thoroughbredhealthnetwork.co.uk](http://www.thoroughbredhealthnetwork.co.uk). In doing so, subscribers will be notified when a research review is published. They will also be invited to participate in opinion surveys and workshops.

Tell us what you think - we actively seek direction from our growing network when considering which common horse health problems to review and in developing the website further.

Help us spread the word of the *THN* by following us on social media; Twitter, Facebook, Instagram and watch educational videos of our veterinary workshops on You Tube.

## BIOSECURITY & HEALTHIER HORSES

### Redwings Strangles Survey

Andrea Vilela, Education & Campaigns Manager, Redwings Horse Sanctuary

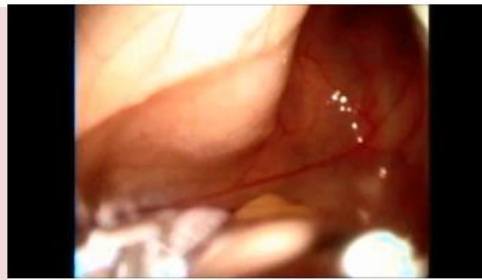
## Survey rationale

- Most commonly diagnosed equine infectious disease in the UK
- An example to improve biosecurity practices across the board?
- Why do we accept strangles?
- 2011-2017 Redwings' protocols identified and treated 47 subclinical carriers

*"...an increased understanding of key aspects of disease transmission and improved diagnostics permit the implementation of basic management practices that can virtually eliminate the risk of this disease."*

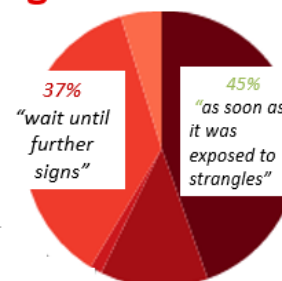
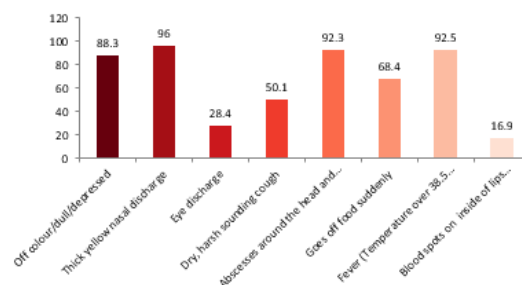
Andrew Waller, Animal Health Trust (2011)

Strangles cases at Redwings by intake type (2011-2016) n=87



## General findings: knowledge vs action

### Clinical signs:



*If you suspected your horse had strangles, at what point would you take steps to prevent it spreading to other horses? (n=1996)*

### Transmission and infectivity:

- 1/3 think it's 'airborne like flu'
- 28.8% were not aware of potential for carriers
- Nearly 80% knew incubation period but 56% identified the correct minimum quarantine period



## Key recommendations

1. Overall strong support for strengthening biosecurity against strangles from horse owners.
2. Good knowledge of signs of strangles and biosecurity steps yet delay putting precautionary quarantine in place.
3. Practical and attitudinal barriers to biosecurity; space, information and pessimistic attitudes.
4. Vets play an important educational role particularly among those with no experience of strangles.
5. Targeting education interventions appropriately to 'communities of horse owners' tailored to their needs/context
6. Raise awareness of carrier status to encourage screening.
7. Don't panic! Experience says; strangles is manageable but we must commit to eradicate it!



### Further information

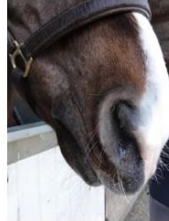
**Redwings Strangles Survey Results: Main Report:** <https://www.redwings.org.uk/strangles-survey-report>

**Strangles Information Pack for Horse Owners:** <http://bit.ly/StranglesInfoPack>

**Treatment protocol for carriers (for vets):** <http://bit.ly/StranglesCarriersTreatmentProtocol>

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## Infectious disease case study



Josh Slater BVM&S PhD DipECEIM MRCVS

Susanna Ballinger BVSc MRCVS

Kate Hannigan DVM MRCVS



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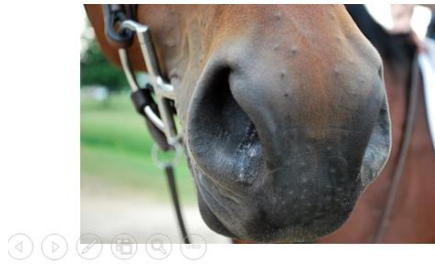
## Bedfordshire October 2016

- 17 horse livery yard
- All geldings, mixed breeds/types, 9-27 years old
- 26.10.16
  - 19 year old riding club type gelding
  - had been at a show 3 days previously
  - clinically normal on 25.10.16
  - sudden onset incoordination and urine dribbling 26.10.16
  - otherwise bright and well
  - no respiratory signs



## Triggers for action

- Every yard should have an outbreak control plan
  - considers relevant diseases
  - clinical signs that trigger action
  - isolation areas and policies
  - communications plan
  - policy on yard closure

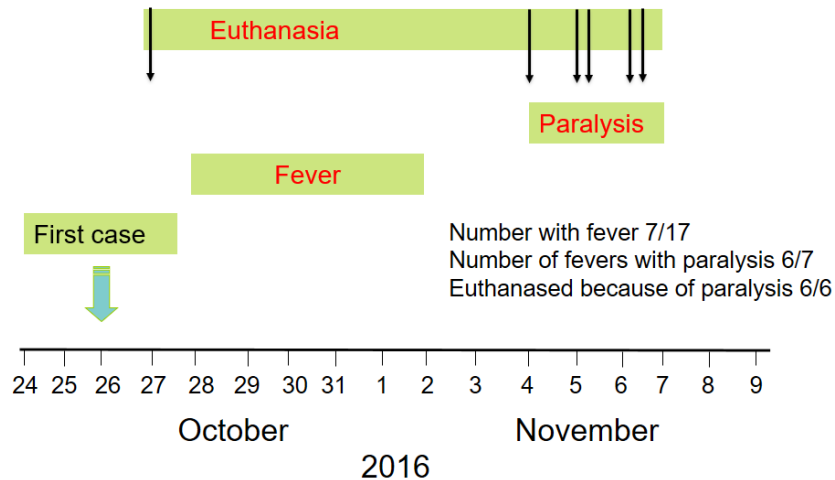


## What was done?

- EHV neurological disease suspected on 26.10.16
- Samples taken for diagnosis (confirmed EHV)
- Yard meeting (briefing, comms, decisions, hygiene)
- Yard closed, all horses turned out in small groups
- Temperatures checked, barns used for isolation



## Outbreak timeline



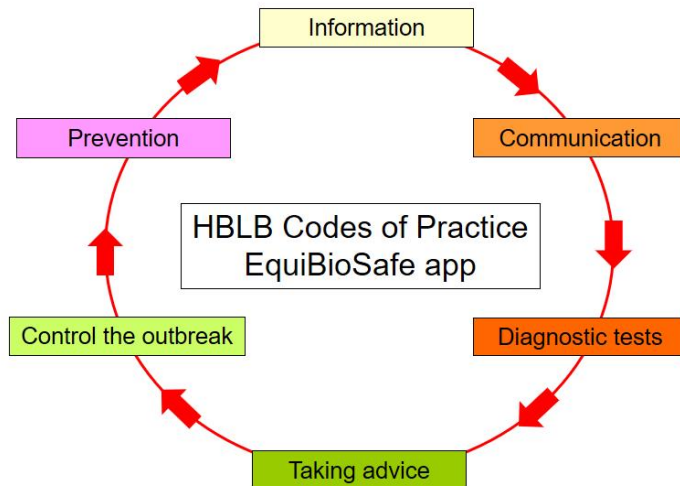
## Outcome and main points

- Outbreak contained: compliance and biosecurity
- Rapid spread of infection, source not identified
- Immediate lab diagnosis & advice was vital
- Initial yard meeting was critical to success
- Active communication ensured correct messages and improved understanding
- HBLB Codes of Practice were followed, including 'shut down' period and testing at end





## Biosecurity: practical outbreak management



## Quarantine, segregation, isolation

- **Red zone (High risk)**
  - horses with clinical signs of disease
  - separation >5m, ideally >10m
  - can be a paddock (does not need to be a stable)
- **Amber zone (Medium risk)**
  - in-contact horses that have not shown clinical signs
  - can be a paddock
- **Green zone (Low risk)**
  - horses that have not been in-contact



## Quarantine, segregation, isolation



## FAQ's during an outbreak

- Should shows in my area be stopped?
  - No, but be vigilant and take basic hygiene precautions
- Should a new horse arriving at our yard be isolated?
  - Yes, all new arrivals should be quarantined as a routine
- Can I let my farrier and EDT come to my yard?
  - Yes, but ask your vet to recommend hygiene measures
- Should I vaccinate my horse?
  - Vaccination helps in disease prevention alongside biosecurity, but is not recommended in the face of an outbreak

<b>Equine herpes: all you need to know</b>	
Horse & Hound ( <a href="http://www.horseandhound.co.uk/">http://www.horseandhound.co.uk/</a> ) 09.24 - 1 November, 2016	<b>HORSE &amp; HOUND</b>





# Acknowledgements



Dr Susanna Ballinger



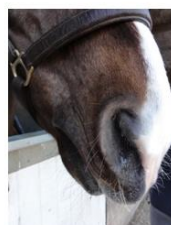
Dr Kate Hannigan



Dr Imogen Johns  
Dr Bettina Dunkel  
Dr Katya Potter  
Dr Natasha Jocelyn



## Infectious disease case study



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## **HORSES & YOUNG PEOPLE**

It's a kind of magic ...

**Lynn Petersen**, Chief Executive, British Horse Society

### Changing Lives Through Horses

The British Horse Society's (BHS) new programme, Changing Lives through Horses has been designed to help improve the lives of young disengaged people, using horses as the inspiration for change.

The equestrian environment provides young people with structure and a sense of responsibility.

Horses can help young people connect with society and improve their wellbeing. Key skills are developed by the individual that will serve them for the rest of their lives.

The Changing Lives through Horses programme is operated through selected BHS Approved riding centres across the UK. Each centre has trained coaches teaching life skills with horses to make it engaging. The skills young people learn can inspire their transition into education, training and employment.

Changing Lives through Horses is working in partnership with secondary schools and youth organisations nationwide.

[www.changinglivesthroughhorses.org.uk](http://www.changinglivesthroughhorses.org.uk)

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## **ADDITIONAL INFORMATION**

Equine Sector 2017 Mid-Term Manifesto for the Horse

<http://bit.ly/NEF17EqManifesto2017>

BEVA Checklist for Equine Health

<http://bit.ly/NEF17EqHealthCheck>

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**The National Equine Forum is grateful for support from the following**

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The Lipizzaner Society GB  
The Pony Club  
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Sir Walter Gilbey Memorial Company Ltd  
Society of Master Saddlers  
Sports Pony Studbook Society  
Toyhorse International  
Worshipful Company of Farriers

If you would like to suggest topics for consideration for a future Forum please e-mail:

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See you on Thursday 8<sup>th</sup> March 2018