

2012 Codes of Practice

extract for dourine



This extract of the Codes of Practice is published by:

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The full Codes of Practice and details of Approved Laboratories are available online at <http://codes.hblb.org.uk/>.

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Acknowledgements

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Introduction

This is an extract from the Codes of Practice 2012 booklet; it sets out voluntary recommendations to help breeders, in conjunction with their veterinary surgeons, to prevent and control **dourine**.

It is vital that owners/managers of breeding stock maintain vigilance and follow the Codes, in conjunction with the attending veterinary surgeon, at all times. This extract of the Codes of Practice set out minimum recommendations for disease prevention and control. Breeders should implement additional precautions whenever appropriate to their circumstances. **Mare owners are strongly advised to check whether the stallion stud and/or boarding stud to which their mare is to be sent, or any local breeders' association for that area such as the Newmarket Stud Farmers Association (NSFA), has any requirements additional to those included in these Codes.**

The recommendations within this extract of the Codes of Practice are common to France, Germany, Ireland, Italy and the United Kingdom. Dourine can have devastating consequences; it compromises horse and pony welfare, disrupts breeding activity, causes economic loss to mare and stallion owners and is costly to deal with. The disease is highly contagious and uncontrolled infection in just one horse or pony can transmit easily to others, potentially escalating to local and national outbreaks.

Dourine is notifiable by law and, ultimately, outbreaks on any scale can lead to Britain losing its horse export status. To avoid these consequences, breeders should aim to prevent disease, and control its spread if a case is suspected or occurs, by implementing the recommendations in this Codes of Practice extract. If a case occurs, it is important to inform owners of other horses that are at risk of infection through contact with the affected horse/premises so that they can treat their horse and implement measures to stop any further spread of disease to other horses.

Throughout this extract, the term:

- 'Horse' includes mares and stallions of any breed of horse or pony.
- 'Stallion' includes stallions of any breed to be used for natural mating, teasing or semen collection for AI.
- 'Breeding activity' includes natural mating, teasing and collection and insemination of semen.

CODE OF PRACTICE FOR DOURINE

The Disease

Dourine, also known as *maladie du coit* or genital glanders, is caused by the protozoan parasite, *Trypanosoma equiperdum* and is a serious, often chronic, venereally transmitted disease of horses and other equids. Once widespread, dourine has been eradicated from many countries but is still seen in horses in Asia, Africa, South America, southern and eastern Europe, Mexico and Russia. It was reported in June 2011 in Sicily and then just north of Naples, on the Italian mainland. There was evidence based on subsequent testing of blood samples collected in 2010 of subclinical seropositivity to dourine in many regions of Italy. There is currently no proven long term cure for dourine and so euthanasia is considered the best policy, on grounds of equine health, welfare, and disease control.

Notification Procedures

European Council Directive 90/426 of 26th June 1990 makes dourine compulsorily notifiable in the EU. In the UK, dourine is also **notifiable by law** under the Infectious Diseases of Horses Order 1987. Under the Order, anyone who owns, manages, inspects or examines a horse, which is affected or is suspected of being affected by the disease must notify Defra via the appropriate Regional Veterinary Lead of Animal Health Veterinary Laboratories Agency (AHVLA). See Defra's website for AHVLA contact information at <http://animalhealth.defra.gov.uk/about/contact-us/officemap.html>.

Under the Order, Defra may declare the premises where disease is suspected to be an infected place and impose restrictions on horses at those premises. A veterinary enquiry will be carried out under the direction of Defra to determine if dourine is present. The Order provides Defra with powers to enforce measures for vector control and disinfection.

Clinical Signs

Clinical signs of dourine are highly variable in manifestation and severity. The disease is characterized mainly by swelling of the genitalia, cutaneous plaques and neurological signs but severity varies with the virulence of the strain, the nutritional status of the horse and stress factors. Clinical signs often develop over weeks or months, frequently waxing and waning with relapses, probably precipitated by stress. This can occur several times before the animal either dies or experiences an apparent recovery. The mortality rate is believed to be in excess of 50%.

Genital oedema and reproductive tract mucopurulent discharges are often the first signs. Mares develop a mucopurulent vaginal discharge, and the vulva becomes oedematous; this swelling may be marked leading to vaginal prolapse and may extend along the perineum to the ventral abdomen and mammary gland and may result in depigmentation, similar to that seen in coital exanthema with EHV-3 infection. Abortion can occur with more virulent strains. Stallions develop oedema of the prepuce and glans penis with paraphimosis in some cases, and can develop a mucopurulent urethral discharge. The swelling may spread to the scrotum, perineum, ventral abdomen and thorax and the affected skin may become depigmented.

Characteristic raised oedematous patches 2-10 cm in diameter (sometimes called 'silver dollar plaques') may appear on the skin on the neck, hips, lower parts of the abdomen and particularly over the ribs. These cutaneous plaques usually last for 3 to 7 days and are pathognomonic for the disease, although they do not occur with all infecting strains.

Neurological signs can develop with signs of progressive weakness, incoordination and, eventually, paralysis. Facial paralysis, which is generally unilateral, may be seen in some cases. Conjunctivitis and keratitis are common, and in some outbreaks, ocular disease may be the first sign of dourine and anaemia and intermittent fever may also be found. Dourine also results in a progressive loss of condition and affected animals may become emaciated, although their appetite remains good.

Transmission of Disease

Dourine is caused by the protozoan parasite, *Trypanosoma equiperdum*, which unlike other trypanosomal infections, is sexually transmitted during natural mating or by artificial insemination (AI) with infected semen. Transmission from stallions to mares is more common, but mares can also transmit the disease to stallions. *T. equiperdum* can be found in the vaginal secretions of infected mares and the seminal fluid, mucous exudate of the penis, and sheath of stallions. Periodically, the parasites disappear from the genital tract and the animal becomes non-infectious for weeks to months. Transmission is most likely early in the disease process as non-infectious periods are more common late in the disease. Male (jack) donkeys can become asymptomatic carriers and sexually immature jacks that become infected can transmit the organism when they mature.

Rarely, infected mares pass the infection to their foals, possibly before birth or through colostrum and milk, and infections may also be acquired through mucous membranes such as the conjunctivae. There is currently no evidence that arthropod vectors play a significant role in transmission of dourine, but this possibility cannot be ruled out.



Prevention

There is no vaccine available for dourine. As dourine is primarily a venereal disease, prevention of natural mating or AI with infected horses (stallions or mares) or infected stallion semen is the most important means of control. Prevention of dourine is therefore based on the establishment of freedom from infection and this is done by testing blood for the presence of antibodies against *T. equiperdum*, which is more reliable than testing for the presence of the protozoan parasite itself.

Any introductions of horses from endemic areas or areas of incursion should be isolated and blood tested for antibodies by complement fixation test (CFT). Horses in isolation must not be allowed to mate and semen must not be collected or used for AI until negative dourine test results are confirmed. Any seropositive results, or any horses showing clinical signs of dourine should be reported as required by national law (Defra in the UK) and will then be dealt with under official supervision. Dourine should be eradicated from an incursion into a non-endemic area by identification of the source, thorough tracing and testing of all in-contacts and euthanasia of infected and seropositive horses.

Stallions or mares should not leave endemic areas or areas of incursion without veterinary confirmation that:

- The horse(s) has/have not been in contact with cases of dourine.
- The horse(s) is/are healthy and show(s) no clinical signs of dourine, prior to leaving.
- Negative CFT blood sample result(s) for dourine, performed by an authorised laboratory, collected within one month of leaving, are certified.

On arrival in an area where dourine does not occur, these stallion(s) or mare(s) should be isolated until repeat negative CFT blood sample result(s) for dourine, performed by an authorised laboratory, collected 10-14 days after arrival, has been obtained. Under no circumstances should the stallion(s) or mare(s) involved be mated and no semen should be collected and used for AI purposes before this reassurance has been obtained.

Diagnosis

Due to the variability and possible absence of outward signs of dourine, clinical diagnosis is not always possible and laboratory diagnosis is necessary to confirm diagnoses of dourine.

The complement fixation test (CFT) is the prescribed test for international trade, and has been used successfully in eradication programs. Some uninfected animals, particularly donkeys, often have non-specific CFT reactions due to anticomplementary activity of their serum, thereby rendering results difficult to interpret. Indirect fluorescent antibody tests (IFAT) may help to resolve these cases. Enzyme linked immunosorbent assays (ELISAs) and agar gel

immunodiffusion (AGID) tests have also been used to diagnose dourine. Although no serological test is specific for dourine as cross-reactions occur with other trypanosomes (especially *T. brucei* and *T. evansi*), this is not a problem where these infections are all considered to be exotic and requiring eradication.

CFT should always be used to test horses with clinical signs, to test horses that have been in contact with others who have or are at risk of having dourine and for official export certification. In such cases, samples for dourine (CFT) blood testing must be sent to the Veterinary Laboratories Agency, Weybridge.

Definitive diagnosis by identification of the parasite is not undertaken for routine screening as the organisms are extremely difficult to find and are usually not detectable in blood smears. *T. equiperdum* cannot be distinguished microscopically from *T. evansi*.

Control of infection

If dourine is suspected in any horse, stop all breeding activities immediately, identify the horse(s) concerned, notify Defra via the appropriate Regional Veterinary Lead of Animal Health Veterinary Laboratories Agency (AHVLA) and seek veterinary advice about the welfare of the horses and the next steps.

If dourine is confirmed, further action will be controlled by Defra. Mating, teasing, collection/insemination of semen and movement of horses on and off the premises must stop until the disease outbreak is confirmed to be over. The premises concerned will be subject to official movement restrictions.

Any venereal contacts with confirmed infected horses must be isolated and will be blood tested to determine if they produce antibodies, i.e. to determine if they have become infected.

Inform:

- Owners (or persons authorised to act on their behalf) of horses at, and due to arrive at, the premises.
- Owners (or persons authorised to act on their behalf) of horses that have left the premises.
- Recipients of semen from the premises.
- The national breeders' association.

T. equiperdum is a parasite, which cannot survive outside a living host. It dies quickly with its host. Various disinfectants, including 1% sodium hypochlorite, 2% glutaraldehyde and formaldehyde, as well as heat of 50-60°C, will kill the parasites in the environment, but their transient life outside the host makes this unnecessary, although good stable hygiene is always recommended.

Treatment

There is currently no effective treatment for dourine, although treatment has been attempted with quinapyramine sulphate (3 mg/kg, given subcutaneously). However, *T. equiperdum* may persist in an asymptomatic carrier form after treatment and apparently recovered treated horses are considered unsafe for breeding purposes.

Confirmation of Freedom from Disease

Restrictions on the affected premises and/or the horses in it may only be lifted, and any breeding activities resumed, after authorisation by the Regional Veterinary Lead at AHVLA and approval by the attending veterinary surgeon, who must be satisfied that all in-contact horses have been investigated and found to be negative for dourine.

Note: If statutory restrictions have been imposed, the requirements of the supervising AHVLA officials must be met in order that the restrictions can be lifted.

Export Certification

For official export certification purposes, samples for dourine (CFT) blood testing must be sent to the Veterinary Laboratories Agency, Weybridge.

Further information for veterinary surgeons

http://www.oie.int/fileadmin/Home/eng/Animal_Health_in_the_World/docs/pdf/DOURINE_FINAL.pdf

<http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/dourine/>

<http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/monitoring/poa.htm>

<http://www.archive.org/details/dourineofhorsesi00mohliala>

APPENDIX 1

Contact information for reporting notifiable disease suspects to Animal Health Offices in England, Scotland and Wales

There are statutory requirements that suspicion of the notifiable diseases of CEM, EVA and EIA must be reported immediately to the appropriate Divisional Veterinary Manager (DVM) of Defra. DVM's are based at Animal Health Offices, as listed below.

When you telephone your local Animal Health office, tell the switchboard that you are telephoning to report a suspect case of notifiable disease, and ask to speak to the Duty Vet. The Duty Vet is trained to handle reports of notifiable disease and will discuss the case with you. Many reports can be ruled out based on information gathered during this initial telephone conversation.

However, if a notifiable disease cannot be ruled out, the Duty Vet will arrange for a Veterinary Officer to visit the premises, usually within two hours. If considered to be appropriate, restrictions preventing movements on or off the premises, may be served verbally over the phone at this time.

When the Veterinary Officer visits, they will examine the affected animal, together with the other animals on the premises. Disease is often ruled out at this point and restrictions are lifted immediately. If disease cannot be ruled out by this examination and inquiry, then samples may be taken and sent to a laboratory for testing. In this case, restrictions will remain in place until negative laboratory results are obtained – this is often in less than 24 hours. If negative results are obtained then restrictions are lifted immediately.

England

South West Region

Exeter, South West Animal Health Regional Office

Telephone: 01392 266373

Regional office covers: City Of Plymouth | Devon | Torbay |

Truro Animal Health Office

Telephone: 01872 265500

Office covers: Cornwall | Isles of Scilly

Taunton Animal Health Office

Telephone: 01823 337922

Office covers: Somerset | Dorset | Bournemouth and Poole

Gloucester Animal Health Office

Telephone: 01452 627400

Office covers: Bath and North East Somerset | City of Bristol | Gloucestershire | North Somerset | South Gloucestershire | Swindon | Wiltshire

South East Region

Reigate, South East Animal Health Regional Office

Telephone: 01737 242242

Reading Animal Health Office

Telephone: 01189 596695

Regional office covers: Brighton And Hove | East Sussex | Greater London Authority | Kent | Medway | Surrey | West Sussex |

East of England Region

Bury St Edmunds, East of England Animal Health Regional Office

Telephone: 01284 778150

Regional office covers: Cambridgeshire | Bedfordshire | Hertfordshire | Norfolk | Suffolk | Essex | North London |

East Midlands Region

Leicester, East Midlands Animal Health Regional Office

Telephone: 01162 787451

Lincoln Animal Health Office

Telephone: 01522 529951

Regional office covers: City Of Derby | City Of Leicester | City Of Nottingham | Derbyshire | Leicestershire | Lincolnshire | Northamptonshire | Nottinghamshire | Rutland |

West Midlands Region

Stafford, West Midlands Animal Health Regional Office

Telephone: 01785 231900

Worcester Animal Health Office

Telephone: 01785 231900

Shrewsbury Animal Health Office

Telephone: 01785 231900

Luddington Animal Health Office

Telephone: 01785 231900

Regional office covers: Birmingham District | City Of Stoke-On-Trent | Herefordshire | Coventry District | Dudley District | Sandwell District | Shropshire | Solihull District | Staffordshire | Telford And Wrekin | Walsall District | Warwickshire | Wolverhampton District | Worcestershire |

North West Region

Preston, North West Animal Health Regional Office

Telephone: 01772 861144

Regional office covers: Blackburn With Darwen | Blackpool | Bolton District | Bury District | Cheshire | Cumbria | Halton | Knowsley District | Lancashire | Liverpool District | Manchester District | Oldham District | Rochdale District | Salford District | Sefton District | St Helens District | Stockport District | Tameside District | Trafford District | Warrington | Wigan District | Wirral District |

North East Region

Newcastle Upon Tyne, North East Animal Health Regional Office

Telephone: 0191 2295400

Regional office covers: Darlington | Durham | Gateshead District | Hartlepool | Middlesbrough | Newcastle Upon Tyne District | North Tyneside District | Northumberland | Redcar And Cleveland | South Tyneside District | Stockton-On-Tees | Sunderland District |

Yorkshire and Humber Region

Leeds, Yorkshire and Humber Animal Health Regional Office

Telephone: 01132 300100

Regional office covers: Barnsley District | Bradford District | Calderdale District | City Of Kingston Upon Hull | Doncaster District | East Riding Of Yorkshire | Kirklees District | Leeds District | North East Lincolnshire | North Lincolnshire | North Yorkshire | Rotherham District | Sheffield District | Wakefield District | York |

Wales

South Wales Region

Carmarthen, South Wales Animal Health Regional Office

Telephone: 01267 245400

Regional office covers: Abertawe - Swansea | Blaenau Gwent - Blaenau Gwent | Bro Morgannwg - The Vale Of Glamorgan | Caerdydd - Cardiff | Caerffili - Caerphilly | Casnewydd - Newport | Castell-Nedd Port Talbot - Neath Port Talbot | Merthyr Tudful - Merthyr Tydfil | Pen-Y-Bont Ar Ogwr - Bridgend | Powys | Rhondda, Cynon, Taf - Rhondda, Cynon, Taff | Sir Benfro - Pembrokeshire | Sir Ceredigion - Ceredigion | Sir Fynwy - Monmouthshire | Sir Gaerfyrddin - Carmarthenshire | Tor-Faen - Torfaen |

Caernarfon, North Wales Animal Health Regional Office

Telephone: 01286 674144

Regional office covers: Conwy - Conwy | Gwynedd - Gwynedd | Powys | Sir Ddinbych - Denbighshire | Sir Y Fflint - Flintshire | Sir Ynys Mon - Isle Of Anglesey | Wrecsam - Wrexham |

Scotland

Galashiels Division

Galashiels Animal Health Divisional Office

Telephone: 01896 758806

Regional office covers: City Of Edinburgh | East Dunbartonshire | East Lothian | Falkirk | Glasgow City | Midlothian | North Lanarkshire | Scottish Borders | South Lanarkshire | West Lothian |

Ayr Division

Ayr Animal Health Divisional Office

Telephone: 01292 291350

Regional office covers: Dumfries And Galloway | East Ayrshire | East Renfrewshire | Glasgow City | Inverclyde | North Ayrshire | Renfrewshire | South Ayrshire |

Perth Division

Perth Animal Health Divisional Office

Telephone: 01738 602211

Regional office covers: Angus | Argyll And Bute | Clackmannanshire | Dundee City | East Dunbartonshire | Fife | Highland | Perth And Kinross | Stirling | West Dunbartonshire |

Inverurie Division

Inverurie Animal Health Divisional Office

Telephone: 01467 626610

Regional office covers: Aberdeen City | Aberdeenshire | Moray | Orkney Islands | Shetland Islands |

Inverness Division

Inverness Animal Health Divisional Office

Telephone: 01463 728800

Regional office covers: Highland | Na H-Eileanan An Iar |

This information can be downloaded from the Animal Health website

<http://animalhealth.defra.gov.uk/about/contact-us/officemap.html>

APPENDIX 2

Definition of 'high risk' and 'low risk' mares and stallions

'High risk' mares are:

1. Mares from which the CEMO, *K. pneumoniae* (capsule types 1, 2 or 5) or *P. aeruginosa* has been isolated. The 'high risk' status will remain until three sets of negative swabs have been taken at three different oestrous periods in each of two years;
2. Mares which have visited any premises on which the CEMO has been isolated within the previous 12 months;
3. Mares arriving from France, Germany, Ireland, Italy and the UK which have been mated during the last breeding season with stallions resident outside these countries;
4. All mares who have been in countries other than France, Germany, Ireland, Italy and the UK within the last 12 months.

'Low risk' mares are any mares not defined as 'high risk'.

'High risk' stallions are:

1. Stallions which have not previously been used for breeding purposes;
2. Stallions from which the CEMO, *K. pneumoniae* (capsule types 1, 2 or 5) or *P. aeruginosa* has been isolated. The 'high risk' status will remain until treatment has been undertaken and required swab results (see 'Confirmation of freedom from disease') are negative;
3. Stallions which have, in the last 12 months, been at any premises on which the CEMO, *K. pneumoniae* (capsule types 1, 2 or 5) or *P. aeruginosa* has been isolated;
4. Stallions which have mated a mare which has not been swabbed negative in accordance with the Code of Practice.

'Low risk' stallions are any stallions not defined as 'high risk'.

APPENDIX 3



CONTAGIOUS EQUINE METRITIS AND OTHER EQUINE BACTERIAL VENEREAL DISEASES 2012 SEASON MARE CERTIFICATE

This certificate must be completed by the mare owner/manager and be lodged with the prospective stallion owner/manager before the mare's arrival.

Name of mare _____

Passport number (where available) _____

Name and address of owner _____

Address of premises where mare currently resides _____

In 2009 the above mare boarded* at _____ stud

whilst visiting _____ (stallion) result _____

In 2010 the above mare boarded* at _____ stud

whilst visiting _____ (stallion) result _____

In 2011 the above mare boarded* at _____ stud

whilst visiting _____ (stallion) result _____

Additional information including the results of positive bacteriological examinations for the CEMO, *Klebsiella pneumoniae* and *Pseudomonas aeruginosa* at any time:

Name (please print) _____

Signature _____ Date _____

*If no boarding stud was used, provide the name and address of the premises where the mare resided.

APPENDIX 4



LABORATORY CERTIFICATE (CERTIFICAT LABORATOIRE) 2012 SEASON

For use only by Approved Laboratories* (Laboratoires agréés)

Swabs contained in transport medium and labelled as collected from the stallion/teaser/mare named (Nom du cheval) _____

Passport number (where available) (Numéro SIRE/carnet signalétique) _____

from the following sites (Prélèvements effectués) _____

were submitted by (Nom du vétérinaire ayant effectué les prélèvements) _____

for bacteriological examination on (date[s]) (Fait le) _____

I (Je) _____

certify that the above swabs were examined: (je soussigné/e atteste que les prélèvements mis en culture),

a) with the following results:
(ont livré les résultats suivants):

b) by testing method:
méthode utilisée):

	POSITIVE positif	NEGATIVE négatif	CULTURE	PCR
<i>Tylorella equigenitalis</i> (CEMO) (Métrite contagieuse des Equidés)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Pseudomonas aeruginosa</i> (<i>Pseudomonas aeruginosa</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Klebsiella pneumoniae</i> (<i>Klebsiella pneumoniae</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Where *K. pneumoniae* was isolated, capsule type(s) identified were _____
(Type(s) capsulaire[s])

Name and qualifications (Responsable du laboratoire agréé) (please print) _____

Signature _____ Date _____

Laboratory name and address (Nom et adresse du laboratoire agréé) _____

*An Approved Laboratory is one whose name is published on the Horserace Betting Levy Board's Codes of Practice website <http://codes.hblb.org.uk/index.php/page/139> for the year December 2011-November 2012.

†In the event of a positive *Klebsiella pneumoniae* isolate, capsule typing should be performed and the results detailed to aid the determination of potential venereal pathogenicity.

APPENDIX 5

Identifying EAV shedding stallions

When a seropositive stallion is identified, it is vital to establish whether he is shedding the equine arteritis virus (EAV) in his semen. If so, he is a primary source of infection. He must be kept in strict isolation for at least 28 days while the following methods are used under the direction of the attending veterinary surgeon and the Defra DVM to determine whether he is a shedder:

Detecting virus in semen

The virus isolation (VI) test is the internationally recognised test for the detection of EAV in semen and PCR (Polymerase Chain Reaction) testing may be used to provide an initial indication of virus in semen.

A whole ejaculate of semen should be sent to a laboratory; a second whole ejaculate should be collected at least seven days later and sent to the same laboratory. Transport requirements (eg cooling) should be arranged with the laboratory. If EAV is detected in either sample, the stallion is a shedder. He must be kept in isolation and not be used for any breeding activities while he is still shedding, unless permitted under an official licence issued by Defra.

In the event of negative results for both semen samples, experience has shown that it is advisable to confirm these results by test mating.

Test mating

This must be done in strict isolation and under veterinary supervision. The stallion and mares must have no contact with other horses. The following procedure should be followed:

- Identify at least 2 seronegative mares;
- Take and store blood samples from each and then isolate the mares. Consult the testing laboratory about storage conditions;
- Mate each mare twice a day with the stallion on 2 consecutive days;
- Keep the mares in isolation;
- After 28 days, take blood samples and send them, with the pre-isolation samples, to the laboratory.

If the mares remain seronegative, the stallion is unlikely to be a shedder and can be released after a clinical examination.

If one or more mares become seropositive, the stallion is a shedder. He must be kept in isolation and not be used for breeding activities while he is shedding, unless permitted under an official licence issued by Defra.

Seropositive mares must remain in isolation until they have a stable or declining antibody level in two sequential blood tests taken at an interval of at least 14 days.

APPENDIX 6

Guidance on isolation

The Codes of Practice often refer to the isolation of horses. In its strictest sense, 'isolation' means a separate facility with separate staff, separate protective clothing, separate utensils/equipment and thorough steam cleaning and disinfection of stables between each occupant. The following guidelines, at least, should be adhered to:

Premises

1. The isolation facility should be a separate, enclosed building of sound, permanent construction, capable of being cleansed and disinfected effectively.
2. It must not be possible for other horses to approach within 100 metres of the isolation facility while it is in use.
3. An adequate supply of fresh, clean water must be available at all times for the isolated horses and for cleaning purposes.
4. Adequate supplies of food and bedding material for the whole of the isolation period must be made available and stored within the isolation facility before isolation commences.
5. Equipment and utensils used for feeding, grooming and cleansing must be used only in the isolation facility.
6. Protective clothing must be available at the entrance to the isolation facility and not be taken outside of this facility.
7. A separate muck heap should be used within the isolation facility.

Procedures

1. Before use, all fixed and moveable equipment and utensils for feeding, grooming and cleansing within the isolation facility must be disinfected using an approved disinfectant. A list of these is provided on the Defra website (www.defra.gov.uk).
2. Attendants of the isolated horses must have no contact with any other horses during the isolation period.
3. The isolation period for all isolated horses shall be deemed to start from the time of entry of the last horse.
4. No person may enter the isolation facility unless specifically authorised to do so.
5. When no attendants are on duty, the facility must be locked securely to prevent the entry of unauthorised persons.

If such strict measures are not possible in practice, the owner/manager of the premises where isolation is needed should devise their own isolation programme and procedures in conjunction with the attending veterinary surgeon. These should include, for example:

- The designation of a yard and associated paddock as an isolation area in a geographically separate area of the premises.
- The designation of individual staff to work in the isolation facility with separate protective clothing and approved disinfectants as and when required. These individuals should either not be involved with work on the rest of the premises during periods of isolation, or they should complete their work on the rest of the premises before entering the isolation area. They should not return to other areas of the premises thereafter.
- The establishment of 'standard procedures', the precise details of which should be agreed with the attending veterinary surgeon as they might vary according to individual circumstances.

APPENDIX 7

Transport

There is significant potential for transmission of infectious disease during transport.

Cleanliness and hygiene on board all forms of transport is the responsibility of the vehicle owner in private transport and the vehicle operator in contracted transport. The following notes are for guidance in either case.

1. Vehicles should be cleaned and disinfected frequently and regularly, using approved disinfectants capable of killing bacteria and viruses. A list of these is provided on the Defra website (www.defra.gov.uk).
2. Vehicles should be cleaned before horses are loaded.
3. Prior vaccination of horses may reduce the risk of disease transmission during transport. Ideally, these should be booster vaccinations but, if horses have not been vaccinated previously, then sufficient time should be allowed before transport for both primary and secondary vaccinations to produce adequate immunity.
4. When mixed loads (eg breeding and competition horses; pregnant and non-pregnant mares) are unavoidable, give careful consideration to the categories of horses which are transported together so as to minimise the disease risk (eg risk to pregnant mares of EHV-1 infection; risk of spread of EVA infection).
5. Horses should only travel if they are considered fit to do so by a veterinary surgeon.
6. Sick animals should not be transported except when they are travelling to obtain veterinary treatment. If transport of such horses is unavoidable, they must not be put in mixed loads without the consent of other owners (or those authorised to act on their behalf) of horses in that load. Veterinary advice should be taken.
7. If horses or their in-contacts are ill on, or shortly after, arrival at their destination, veterinary advice should be taken and the sick horses isolated if necessary. The transport operator should be informed at once and should then inform other clients with animals in the same load.
8. Facilities should, if necessary, be made available for cleaning/mucking out of lorries at premises where loading/unloading stops are made.

APPENDIX 8

Information on vaccines available in the UK

Brand name	Manufacturer	Licensed
Artervac*	Fort Dodge	As an aid in the prevention of EVA
Duvaxyn EHV 1,4	Fort Dodge	As an aid in the prevention of abortion and respiratory disease caused by EHV-1 and EHV-4
Equilis Resequin	Intervet UK Ltd	As an aid in the prevention of respiratory disease caused by EHV-1 and EHV-4 and equine influenza

Veterinary advice should be sought on the choice, timing and administration of any vaccine.

*Veterinary surgeons and horse owners should be aware that the current datasheet requirement for the only inactivated EAV vaccine used in Europe presently is for **6 monthly boosters** and NOT 12 monthly (annual) boosters as was previously the case for this vaccine. This has been the requirement since April 2005, when the vaccine was granted a full licence by the Veterinary Medicines Directorate. Non-compliance with this booster interval requirement may necessitate investigation of the viral shedding status of stallions by Defra under the Equine Viral Arteritis Order 1995.

Vaccination is recommended as one means of aiding the prevention of disease. The listing of vaccines above is for information purposes only and does not imply endorsement of the products by the HBLB, its Veterinary Advisory Committee or Sub-Committees. The information given is accurate at the time of printing.

APPENDIX 9

Further reading and relevant publications

Infectious Diseases of Horses Order

Reference: 1987 No. 790. Obtainable from HMSO.

Equine Viral Arteritis Order

Reference: 1995 No. 1755. Obtainable from HMSO.

Equine Veterinary Education

1996 Volume 8 (3) 166–170. Obtainable from Equine Veterinary Journal Ltd, Mulberry House, 31 Market Street, Fordham, Ely, Cambs CB7 5LQ.

BEVA Code of Practice for the use of Artificial Insemination in Horse Breeding

Obtainable from the British Equine Veterinary Association, Mulberry House, 31 Market Street, Fordham, Ely, Cambs CB7 5LQ.

Newmarket Stud Farmers Association Breeding Regulations

Obtainable from Rustons and Lloyd, 136 High Street, Newmarket, Suffolk CB8 8JP.

APPENDIX 10

Glossary of terms used in the Codes of Practice

Aerobically	In the presence of oxygen
Antibody	Protective protein produced by the body in response to the presence of a virus or bacteria
Cervix	Neck of the uterus opening into the vagina
Clitoris	A body of tissue found just inside the vulva
EDTA blood	Blood sample which has been prevented from clotting by the addition of ethylenediamine tetra-acetic acid (EDTA)
Endometrium	Tissue that forms a lining inside the uterus
Genitalia	Genital (ie reproductive) organs
Guttural pouch	Two large sacs connected to the tube (eustachian) between the horse's ear and throat
Heparinised blood	Blood sample which has been prevented from clotting by the addition of heparin
Immunofluorescence	A test that uses a specific antibody and a fluorescent compound to detect a specific organism
Jaundice	Condition in which a yellow colour can be seen in the mouth, eye and vagina
Microaerophilically	In the virtual absence of oxygen (10% of carbon dioxide)
Nasopharyngeal swab	Swab taken from the nose and throat
Oestrus/oestrous period	In heat or in season
Placenta	Membrane which surrounds the fetus in the uterus
Polymerase chain reaction (PCR)	A laboratory technique that produces multiple copies of the genetic material of a micro-organism contained within a clinical sample (eg swab). The technique amplifies the genetic material so that even tiny amounts can be detected, thereby permitting diagnoses of infections to be made.
Urethra	Tube through which urine is discharged from the bladder
Uterus	Womb
Venereal disease	A sexually transmitted disease
Vulva	External opening of the vagina



<http://codes.hblb.org.uk/>

Codes of practice

Laboratory approval scheme

www.hblb.org.uk

Research projects

Research and clinical scholarships

Infectious disease and equine influenza programmes
