A GUIDE TO EXAMINATION
OF HORSES
(The Blue Book)
Fourth Edition

An official publication of the Australian Equine Veterinary Association (AEVA) is a Special Interest Group of The Australian Veterinary Association
ACN 008 522 852

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3rd Edition 1993 Edited by R.R Pascoe A.M, P.J Huntington

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WARNING
While every care has been taken to cover the more common aspects of the examination of horses for specific reasons, this booklet is intended as a guideline only. It is not intended to offer legal advice nor is it intended to offer definitive advice as to the appropriate procedures to be conducted by a veterinarian who must rely upon his or her own professional expertise. The AEVA does not accept any responsibility for veterinarians conducting examinations or writing certificates in reliance upon any of the matters herein.

THIS IS NOT A TEXT BOOK

All veterinarians performing these examinations should consult appropriate equine texts for more detailed information, and even more especially where such examinations are performed infrequently. If such examinations are performed infrequently, or if the veterinarian undertakes relatively little equine work then consideration should be given to referring the examination to colleague with more appropriate expertise.

Veterinarians should also refer to ‘Identification of the Thoroughbred in Australia’ published by the Australian Stud Book.

Acknowledgement
We wish to thank previous editors of this publication, as well as the New Zealand Equine Veterinary Association, British Equine Veterinary Association and the American Association of Equine Practitioners for the use of some material in the production of this booklet.

Special thanks to Dr Jonathan Lumsden for his proof reading of this guide and his helpful and constructive comments and corrections. We are grateful to Provet for financial assistance in the printing of this guide and their support of the Australian Equine Veterinary Association.
Preface

The AEVA book “A Guide to Examination of Horses”, commonly referred to as the “Blue Book”, is one of the most important publications produced by the Association. It was first published in 1979, with revised versions being produced in 1985 and 1993.

The AEVA is indebted to Dr Reg Pascoe, who has been involved in the production of the Blue Book since 1979, as well as Dr Peter Huntington, who assisted in the 1993 revision.

The Blue Book outlines the current standard recommended procedure for examination of horses for pre-purchase, as well as for insurance. There have been several major changes in this 4th edition. The section on insurance has been greatly expanded, as has the chapter on legal requirements. The section on the clinical aspects of the examination has also been revised, with emphasis on the importance of communication with the client. A new reporting form has been developed by the AEVA. This form has been redesigned with considerable legal input, with the aim of protecting the veterinarian from legal claims, as well as protecting the vendor and purchaser as much as possible.

Most significantly, a new chapter entitled ‘Additional procedures in the Pre-purchase examination’ has been included. This chapter provides comprehensive information on the use of radiology and endoscopy in the pre-purchase examination, as well as including information about electrocardiography, ultrasonography and drug testing procedures. Given the increasing demands of clients it was inevitable that more information would be required on each horse prior to purchase, meaning that the additional procedures are now a common part of many pre-purchase examinations.

While it is the aim of every veterinarian to undertake each pre-purchase examination accurately and comprehensively it is not possible within the limits of the examination to detect all possible problems or potential faults. The most common misconception regarding the equine pre-purchase examination is that once undertaken, irrespective of the findings reported by the veterinarian, a certificate of examination represents some form of warranty that the horse shall remain free of problems once purchased.

Unfortunately it is not a warranty and was never meant to be a warranty. It is a pre-purchase examination of the horse by a veterinarian. The role of the examination is best defined by the disclaimer which is now on every form. This disclaimer should serve as the most important guideline for vets, purchasers, vendors and the legal profession when determining the role the pre-purchase examination plays in the purchase of a horse.

“The veterinarian should make no determination and express no opinion as to the suitability of the animal for the purpose intended. This issue is a business judgement that is solely the responsibility of the buyer that he or she should make on the basis of a variety of factors, only one of which is the examination and report provided by the veterinarian.”

Dr Nicholas Kannegieter

CHAPTER 1

Legal Aspects of the Examination of Horses for Sale

The legal aspects of the examination of horses for sale should be well understood by practicing equine veterinarians. They are conveniently explained by the asking and answering of the following questions:-

What are the legal differences between opinion and fact?

This subject is covered by Common Law. The law in this context does not distinguish between opinion and statement of fact. Therefore, any fact that a veterinarian gives as their opinion is still considered a fact and although it may be taken into consideration by the courts that it was stated as an opinion this may not exonerate them if it is found to be wrong. The phrase ‘in my opinion’ is an admission that there may be other interpretations of the facts but it does not reduce the veterinarian’s responsibilities of careful observation and the application of their full professional expertise.

To whom are veterinarians liable when examining and certifying horses for sale?

Case law and court interpretation has established that there is liability on the part of the veterinarian to a person who buys a horse and is influenced by, or relies upon the Veterinary certificate. That is, if the veterinarian examines an animal before a sale and their certificate is used as part of the selling procedure, they may be liable not only to the vendor, but also to the purchaser of the animal.

For this reason, the joint memorandum prepared by the Royal College of Veterinary Surgeons and the British Veterinary Association (1973) contains the following remarks:-

‘Veterinarians are strongly advised that the proper person to examine a horse prior to a change of ownership is the veterinarian appointed by the potential purchaser or his agent. Very serious difficulties have been encountered in the past in relation to the certification of horses intended for sale, particularly by auction, to persons unknown and for an unknown purpose’.

What skill and experience is required by the examining veterinarian?

The examining veterinarian who signs a veterinary certificate must be registered in Australia. The law recognises that there is a variation in skill and competence between individuals within a profession and that a client cannot necessarily expect or argue that they did not get the highest skill or competence available in the profession. What the client is entitled to, is that degree of care and skill which is to be expected from the average member of the profession doing that particular line of work. Anything less than this may be deemed negligence by the courts.
What degree of care should be taken in the examination?
The court’s requirements are that reasonable care be taken ‘in the circumstances’. Due to the extreme variation of the circumstances and conditions under which veterinarians work, a member should not hesitate to draw attention to these circumstances in their certificate. If these circumstances have been such that a complete examination has not been made, this should be made clear on the certificate.

Do we need to keep records of our examinations?
Without adequate records veterinarians could experience considerable difficulty in any litigation. These records should be filed by the veterinarian for ease of recall. They should contain all relevant details related to the examination, such as an accurate description of the animal, the history, the clinical examination and any relevant statements made by connections of the animal being examined. It should also contain information as to the owner of the animal, the animal’s location, the time of day and prevailing weather conditions.

Careful documentation should be made on any specialist information, eg. the use of radiographs, blood results etc., provided from another specialist (or source) and the degree to which the examining veterinarian has relied on, or used this material in the evaluation of the horse being examined. Finally, it should indicate clearly who authorised the examination.

What is the legal difference between ‘soundness’ and suitability for a purpose?
The definition of ‘soundness’ is still based on the judgement of Baron Parke (1842) who stated: “the rule to unsoundness is that if at the time of sale the horse has any disease which either actually does diminish the natural usefulness of the animal so as to make him less capable of work of any description, or which in its ordinary progress will diminish the natural usefulness of the animal, or if the horse has, either from disease or accidents undergone any alteration of structure that either actually does at the time or in its ordinary effects will diminish the natural usefulness of the horse, such horse is unsound”.

The definition rules out the possibility of wording certificates with such phrases as ‘sound in wind and limb’ as these are clearly a contradiction of terms. Since ‘sound’ is an absolute state it is difficult to appreciate how any veterinarian could actually refer to a horse as ‘sound’. Clinical examinations by veterinarians detect ‘signs of disease’ and not necessarily the early stages of some disease conditions which may not be causing changes in the clinical appearance of the animal but nevertheless constitute unsoundness. Furthermore, we are of the opinion that ‘unsound’ horses, whilst being unsuitable for some purposes, may be suitable for others. Information from New Zealand indicated a court decision that soundness; and ‘suitable for racing’ were synonymous. Notwithstanding this legal decision, veterinary opinion recognises an obvious difference in the definition of the two terms.

There are many instances where technically unsound’ horses have shown they have the ability to race successfully. For example, horses which have been injured in accidents as foals or yearlings, have raced successfully, and may have been classed as unsound”, but nevertheless have been ‘suitable’ for racing. However, due to blemishes or conformation defects, these same horses would be classed as unsuitable” for show purposes.

The Australian Equine Veterinary Association policy recommends that the term ‘soundness’ NOT BE USED and that great care also be used in the expression ‘suitable for ……. purposes’.
The AEVA has obtained legal opinion on both these issues as follows:-

A report issued by any examining veterinarian who provides an opinion that an animal is ‘suitable for purposes, and certifies a horse is suitable for racing, showing, endurance riding, brooding etc., is capable of amounting to a warranty.

The circumstances under which the type of examination postulated is carried out are not always conducive to thorough examination and under those circumstances, it would be unwise for the examining veterinarian to give anything which is capable of amounting to a warranty.

Opinion expressed was that the term 'soundness' should not be used.

Further consideration would be that a certificate might be issued in the following terms:

“I have this day conducted an examination of such and such a horse (and hereafter set out the circumstances in which the examination was conducted and such limitations that may have been imposed upon the examiner). I have been unable to detect within the confines and limitations of the examination conditions any signs of disease or any defect or condition which would render the animal unsuitable for .... purposes”.

Does the amount charged for veterinary services influence the legal liability of the veterinarian?

Whether the examination was performed for a fee or gratuitously the veterinarian still has a legal liability to exercise care and skill. However, the amount charged has some significance in court as it acts as an indication of the time involved in the examination and recording.

To what extent are results of the examination confidential?

The results of the examination and the contents of the certificate must only be given to the person or agent of the person who employs the veterinarian. The information is theirs and theirs alone and can only be given to the other persons after the consent of the employer has been obtained.

Due to the legal responsibilities associated with the examination of horses the Executive of the Australian Equine Veterinary Association recommends that veterinarians undertaking this task be adequately covered by professional indemnity insurance and to conduct their examinations substantially in accordance with these recommended procedures.

**LEGAL LIABILITY, RISK MANAGEMENT AND THE EQUINE VETERINARIAN**


**Introduction**

Paul Baker is a partner of Ebsworth & Ebsworth solicitors in Sydney and for some time now has acted on behalf of veterinarians in proceedings involving alleged professional negligence. In this article he overviews the pitfalls associated with the provision of certificates as to soundness and/or pre-purchase inspection reports for use in the purchase of horses and provides some suggestions on measures which could be implemented with a view to reducing the risk of litigation.

The purchase of a horse can be a risky business. While historically the general legal concept involving the purchase of a horse has been “buyer beware” it would be foolish to seek to rely on that doctrine today as there is now fair trading legislation and essentially a responsibility of full disclosure by the vendor. The vendor, in most instances, has a thorough knowledge of the traits of the particular horse being sold and generally a purchaser will only have a limited opportunity of inspection.

In the circumstances inherent defects in a particular horse are at times difficult to detect. The cost of undertaking suitable tests is often prohibitive unless of course the horse in question is particularly valuable. It is appreciated that certain conditions are not detectable at all or sufficiently rare as to not warrant special investigation. While pre-purchase reports are at times obtained by both vendors and purchasers, litigation against veterinarians insofar as the provision of such reports are concerned has in the past, almost without exception been commenced on behalf of an aggrieved purchaser.

**The Legal Position**

A veterinarian, in the provision of a pre-inspection report and/or certificate owes the client a duty to exercise reasonable care under the common law. A similar duty also exists under the law of contract. (NB:

Only the party who has contracted with the veterinarian has redress under contract law). Put simply the Veterinarian will be liable in such circumstances, if it is deemed that:- a duty of care was owed to the particular person; and there has been a breach of that duty of care; and which is reasonably foreseeable and in circumstances where there was reliance vis-a-vis the breach and a sufficient relationship of proximity between the parties.

Accordingly, in circumstances where a pre-inspection report is provided the veterinarian must take reasonable care to avoid acts or omissions which may result in damage being sustained by the client. Notwithstanding cost constraints it is important that veterinarians do not compromise their standards or undertake inadequate, non-exhaustive inspections. If circumstances arise which restrict the veterinarian’s ability to adequately carry out an inspection, such restrictions must be justified in writing on any certificate or report.

It is appreciated that even with the greatest of care and the conducting of exhaustive tests, certain defects and irregularities in a particular animal may go unnoticed. To this end the law does not impose a strict liability standard in that liability will only attach if it can be established the veterinarian has not exercised reasonable care and met the requisite standard of care in the course of his examination and in the preparation of the report or certificate. The standard of care required in such circumstances is generally measured by ascertaining whether the veterinarian has
undertaken such steps as would generally be recognizable within the profession as being appropriate (i.e. this involves ascertaining whether the individual has acted in accordance with proper professional standards and exercised reasonable due care and skill in fulfilling his or her professional obligations). It should be noted that over time the standard of care required in a certain instance can change with the advent of new technology and professional procedures.

There have been many instances in which veterinarians have been sued as a result of the failure to adhere to the above criteria. This litigation has involved alleged negligent conduct arising out of the failure to:- detect an inherent fault in the particular horse conduct a thorough and proper examination undertake sufficient investigative steps (including x-rays) to assist in certifying the horse as sound warn the purchaser of difficulties that may be encountered with the subject animal undertaking activities which the purchaser wishes to pursue (for instance show jumping)

**Risk Management Suggestions**

The following suggestions are provided to assist veterinarians in considering what factors should be taken into account in the preparation of pre-purchase certificates and reports and if followed should assist in minimising the risk of proceedings being commenced as a result of alleged negligence or breach of contract.

It is important when providing a certificate of examination that the veterinarian:-

- indicate in writing that the report has been prepared solely for the use of a nominated party;
- indicate for what period the report will be valid;
- only provide an opinion of the animal’s medical condition relevant to the test(s) performed during the examination;
- indicate what other investigative steps or procedures could be undertaken to assist in the provision of a “more accurate” report (i.e. a veterinarian should not certify a horse as being sound without qualification particularly in circumstances where x-rays have not been performed);
- consider whether urine and/or blood testing is appropriate and seek instructions as to pursuing those options in pursuing the investigative process
- if possible, avoid using the terms such as “sound” and/or “suitable” without qualification although if the veterinarian considers the animal is fit for the intended purpose the following statement could be included in the report to provide a degree of legal protection: “It is my opinion based on the tests performed that I can find no medical reason for this animal not being appropriate for its intended use ”;
- seek to qualify the opinion being proffered through the inclusion of comments in the report explaining the basis on which the opinion is founded;
- include reference in the report to the instructions received in relation to drug testing (particularly if instructions have been given not to pursue that line of inquiry);
- include in the report as much information as possible concerning the circumstances surrounding the request for the examination including the information which has been provided by the client;
- and
- avoid the use of ambiguous terminology and abbreviations with a view to ensuring the comments contained in the report are clear and concise.

In summary, it is critical that detailed consideration is given by veterinarians in the preparation of pre-purchase reports and for that matter, any report prepared in connection with veterinary practice.

**CHAPTER 2**

**Writing Certificates**

Registered veterinary surgeons have a special responsibility under the various Veterinary Surgeons Acts in regard to writing of certificates.

Under sections of the Acts, a registered veterinary surgeon who ‘signs or gives under his name and authority a certificate, notice, report or like document that is false, misleading or improper, signed or given by him in his professional capacity for use in a court, or for administrative or governmental purposes or for his pecuniary interest or that of another person concerned ‘shall be guilty of misconduct in a professional respect and liable to deregistration or other penalty.

For many purposes, proforma certificates are available, such as for tuberculosis testing, export of livestock, distemper inoculations etc. and all that is required of a veterinary surgeon in these instances is that they complete such certificates with accuracy and integrity. Difficulties can arise where certificates are required for which no proforma is available, and in the absence of any clear direction for what is required on such a certificate.

The following points are suggested as a guideline by the AEVA:

- Statements based on hearsay or indirect evidence must not be made. For example, tattoos must be read, history must not be included in the certificate.
- Each certificate should be written on letterhead notepaper, showing clearly the name of the practice and the name of the certifying veterinary surgeon. The certificate should be dated.
• The certificate should indicate the name and address of the person requesting that certificate and care should be taken to avoid ascribing ownership to such person, unless the veterinary surgeon is satisfied that such is the case.

• The date and place of examination should be given.

• The animal or material to which the certificate relates should be properly identified. In the case of animals, a full description should be given, including species, breed, colour, estimate of height, sex, distinguishing marks such as colour marks, hair whorls, brands or tattoos and permanent blemishes or lesions.

• Any lesions or abnormalities which are detected should be carefully listed. If a general examination is called for, this must be carried out carefully and conscientiously.

• Where an opinion is based on another professional’s interpretation, eg. the interpretation of radiographs or blood analysis, or case history tendered by another person, then full details should be comprehensively listed in the veterinary surgeon’s case notes and be incorporated in the certificate in the following manner: “In arriving at this opinion, I have had regard to and accepted as accurate, the following matters....”

• In many circumstances opinions should be expressed in cautious terms e.g. ‘in my opinion lesion X could lead to loss of function of the affected part’. NOT ‘Lesion X will cause loss of function of the affected part’. Similarly ‘in my opinion fertility is likely to be permanently impaired’, is preferable to ‘This animal is infertile’.

• Sign the certificate and add the qualification by which you are registered.

CHAPTER 3

Identification of the Thoroughbred in Australia - Terminology and the Elements of Description

The Identification Certificate

A recommended form of certificate is included in this booklet as a guide for veterinarians. It is desirable that a standardised system of identification be used throughout Australia and New Zealand, and for this reason the AEVA recommends use of the horse identification system officially adopted by the Australian Stud Book (ASB) and the New Zealand Racing Conference. We are grateful to the Australian Stud Book for allowing reproduction of material in this booklet. This chapter should be read in conjunction with the Studbook’s ‘Identification of the Thoroughbred in Australia’.

A record of the examination should be completed and kept in the veterinarian’s files. The certificate given to the client should carry the name and address of the veterinary surgeon clearly typed or printed. It should also note all evidence of disease or injury (failure to do so may be construed as negligence).

(a) Identification

A certificate of identification should be complete, precise and yet easily understood by racing officials, owners and breeders, airport and shipping personnel, customs officers and quarantine veterinarians. It should, therefore, comprise the horse’s registered name (if any), the names of its sire and dam, colour, sex, age and sketched and written descriptions of its natural and acquired markings and congenital abnormalities or special peculiarities. The sketch must support the narrative - both parts are equally important.

To obviate the possibility of errors and omissions, the examination of the animal should be carried out in the following logical sequence:

  Colour
  Sex
  Age (or date of birth)
  Natural markings on -
  head and neck
  legs
  left fore
  right fore
  left hind
  right hind
  body, mane and tail
  Acquired markings (other than brands and tattoos) on -
  head
  neck
  body and legs
  Brands and/or tattoos
  Congenital abnormalities or special peculiarities
  Written description
  The sketch.
1. Coat Colour

For Thoroughbred Stud Book registrations:

The basic coat colours are black, brown, bay and chestnut, although the categories of ‘black or brown’ and ‘brown or bay’ are accepted. These may be modified by either dominant pattern or diluting genes to produce grey, white, roan, pied, dun, and cream (including palomino).

(i) Black
The black pigment is general throughout the body coat, limbs, mane and tail and no pattern other than white markings is present.

(ii) Brown
The body coat is uniformly brown but the mane, tail and lower parts of the leg are black. The black pigment is general throughout the body coat, limbs, mane and tail. The muzzle is brown and often there is brown shading on the flanks.

(iii) Bay
The body coat is bay, although the shade may vary from a dull red, approaching brown, to a yellowish colour, approaching chestnut. The mane and tail are black and almost invariably there is black on the lower parts of the legs and tips of the ears.

(iv) Chestnut
The body colour ranges from a light washy yellow, through golden and reddish shades to a dark liver colour, the pigment being evenly distributed. The mane and tail are not black but are a chestnut colour which may be darker or lighter than the body coat. The lighter coloured chestnuts may have flaxen mane and tail. The colour chestnut need not be qualified in the description by light, dark, liver etc.

(v) Grey
The body colour is an uneven admixture of coloured and white hairs. The foal shows one of the basic colours at birth but with increasing age white hair gradually develops and eventually the whole coat appears white. The white hairs usually appear first on the face. The colour of the mane, tail and points is that associated with the basic coat colour. The transitional stages between the basic coat colour and the white coat should be described as grey-black, grey-brown, grey-bay, grey-chestnut and should not be referred to as roan, which is a permanent colour.

(vi) White
This colouration is not well defined in the Thoroughbred. The foals are born white or predominantly white but pigmentation may be present on the poll and ears or on the tail and tufts or patches of coloured hair may be present. The eyes in at least some of these horses are blue.

(vii) Roan
The body coat is a fairly even admixture of coloured and white hairs. The foal is born roan and remains roan throughout life, because the basic coat colour is permanent and does not change with increasing age. The white hairs are not present to any extent on the face, lower parts of the leg or in the mane and tail. The colour of the mane, tail and points is that associated with the basic coat colour. As roan is also superimposed on one of the basic colours it should be described as roan-black or black-brown (‘blue roan’), roan-brown, bay-brown or bay (‘red roan’) or roan-chestnut (‘strawberry roan’). Roan is not accepted as a Thoroughbred colour.

(viii) Pied
The body coat shows areas without pigment, alternating with areas showing one of the basic colours. Such horses can be more accurately described as pied-black, pied-brown, pied-bay, pied-chestnut, pied-grey, and pied-roan etc. It is suggested therefore, that the use of the terms ‘piebald’ and ‘skewbald’ be discontinued.

(ix) Dun
The body coat ranges from a dark mousey to a light yellowish colour, resulting from dilution of one of the basic colours but a dorsal stripe remains and there may be transverse stripes on the knees and hocks.

(x) Cream
The body coat is a cream colour. Cream with black points represents the dilution of brown or bay and cream with cream mane and tail or with silver mane and tail (palomino) represents dilution of chestnut. The iris may be deficient in, or devoid of, pigment giving the eye a pinkish or bluish appearance.

Always remember -

All grey Thoroughbreds must have at least one grey parent.

A chestnut mare bred to a chestnut stallion can only produce chestnut progeny to that mating.

Some bay stallions cannot sire a chestnut foal.

The occasional grey stallion can only sire grey foals.

Genes for true roan are not present in the Australian Stud Book.

Imported Thoroughbreds described elsewhere as roans have been either transitional greys or simply had extensive evenly dispersed white hairs or ticking.

For Non-Stud Book horses recognised by the Australian Stud Book, five additional colours are accepted: roan, pied, dun, cream and appaloosa.
2. Sex

Colt - an uncastrated male up to and including the age of 3 years

Horse or Stallion - an uncastrated male four years and over

Filly - a female up to and including the age of 3 years

Mare - a female 4 years and over

Gelding - a castrated male of any age

The racebook abbreviations c, f, g, h, and m are acceptable for these descriptions provided they are clear- and distinct. ‘MALE’ and ‘FEMALE’ are acceptable as descriptions provided the words are typed or printed out fully in block letters: they must not be abbreviated. Biological symbols are not acceptable for describing the sex.

3. Age

Foal - an animal officially less than one year of age. If weaned, it may be described as a weanling.

Yearling - an animal which is officially one year of age. Older animals should be described according to their age in years.

4. Natural Markings

Points of the Horse
**White Markings**

These are intense discrete concentrations of white hair which must be precisely, accurately and concisely located, sized and defined. They are the key to the effective visual identification of Thoroughbreds. The probability is that five out of every six horses presented for description will have some white markings.

If the markings contain varying amounts of hair of the general body colour, describe them as ‘mixed’ and, if circumscribed by border of mixed hairs, as ‘bordered’. The adjective ‘white’ need not be used for describing head and leg markings. The following terms are defined for the purpose of describing white markings for the Australian Stud Book:

**Head markings** - true markings on the head consist of solid collections of white hair. They must be precisely described and located in relation to a vertical median line and to horizontal lines at upper and lower eye levels. The relationship of head markings and whorls is important.

White markings must be distinguished from flesh mark

Star - any solid white marking on the forehead. The position, size shape and intensity of the star should be described and presence of any coloured marking in the white noted. ‘Star’ may be qualified by one or more descriptive terms such as large, small, faint, mixed, bordered, crescent-shaped (right or left open) or by these shapes: oval, round, triangular, diamond, elongated, linear, diagonal (describe slope), comma, vee (v), shield, pear or irregular etc.

Any marking on the forehead which consists of a few white hairs or a patch of mixed hairs should be so described and not referred to as a star. Illustrate a few white hairs on the forehead by a few dashes in the sketch.

**Stripe** - a solid white marking down the face from lower eye level downwards, but not wider than the flat anterior surface of the nasal bones. The stripe may be continuous with the star (conjoined) or separated from it. The stripe may be in two or more parts (interrupted).

When no star is present the point of origin of the stripe should be indicated. The point of termination of the stripe, any variation in width or direction should be described and the presence of any coloured markings in the white noted. ‘Stripe’ may be qualified by one or more of the following descriptive term: conjoined, interrupted, broken, mixed, narrow, broad, broadening, irregular, bordered, faint, inclined or curved to left or right etc. Any markings on the site of the stripe which consists of a few white hairs or a patch of mixed hairs should be so described and not referred to as a stripe.

**Blaze** - a solid white marking covering almost the whole of the forehead between the eyes, extending down the front of the face, usually to the muzzle and involving the whole width of the nasal bones. This can be described as a large star and blaze conjoined. Any variation in direction and the point of termination should be described and the presence of any coloured markings in the white noted.

**Face** - a solid white marking covering the forehead and front of the face, usually enclosing both eyes, and extending laterally over the sides of the cheeks and towards the mouth. The extension may be unilateral or bilateral and should be described accordingly. Describe the presence of any coloured marks in the white.

**Snip** - an isolated white (hair) marking, independent of those already named, and situated between or in the region of the nostrils and can run into one of the nostrils. Specify its size, shape and position. The snip can be described as conjoined with the stripe above. Snips must be carefully distinguished from flesh marks.

**Muzzle** - a white marking embracing both lips and extending to the region of the nostrils.

**Lip Marking** - a white marking involving the whole or portion of either lip. Its location and extent should be described. Dispersed white hairs on the upper lip are not uncommon. See also flesh marks.

**Leg markings** - leg markings in the Thoroughbred are classified and defined for the purpose of describing the horse. If the markings contain spots, tufts or patches of coloured hair, they must be described and illustrated. Pay special attention to irregular leg markings whose height varies on each aspect of the one leg.

**Coronet** - a solid white marking immediately above the hoof. The extent and location of the white marking should be described with special reference to variation in the marking on the four aspects of the leg. Describe the presence of coloured marks in the white. A few white hairs or a patch of mixed hairs on the coronet should be described as what they are and not called a coronet.

**Heel** - the term ‘heel’ is to be taken as the area at the back of the pastern extending from the bulbs of the heels to the ergot. Where the white is confined to one or both bulbs of the heel, it should be specified and the presence of any coloured marking in the white should be described.

**Pastern** - the term ‘pastern’ is to be taken as extending from immediately below the fetlock joint downwards to the hoof. The extent of the white should be described as half pastern, three-quarters pastern etc. and special note should be made of variations in the height of the markings on the various aspects of each leg. The presence of coloured markings in the white should be noted.

**Fetlock** - the term ‘fetlock’ is to be taken as comprising the region of the fetlock joint and downwards to the hoof. The extent of the white should be described as ‘to half fetlock’, ‘to three-quarters fetlock’, etc. and variations in the height of the marking on the various aspects of each leg should be specified. The presence of any coloured marking in the white should be noted.

**Cannon** - the term ‘cannon’ is to be taken as the area from immediately below the knee or hock downwards to the hoof. The extent of the marking should be described as ‘to half cannon’, ‘to three-quarters cannon’, etc. and variations in the height of the marking on the various aspects of each leg specified. The presence of any coloured marking in the white should be noted.

**Knee or Hock** - a white marking involving the region of the knee or hock and downwards to the hoof. Variations in the height of the marking on the various aspects of each leg should be described and the presence of coloured markings in the white noted.
Hoof Colour - if there is any white on the hoof, there is usually white on the leg somewhere and vice versa. White on the leg with a black hoof below or white on the hoof with black hair above must be carefully examined and described accurately. Variations in hoof colour such as white segments of hoof are often associated with a white spot on the coronet or a black spot on a white marking. Any white on the leg but not on the hoof must be described as it is rare. In greys and chestnuts always describe any white in the hoof. If there are no white markings on the leg and the hoof is black, record as “Nil, hoof black”.

Flesh Marks - are patches where the pigment of the skin is absent. Describe their location, size and point of termination eg. into right nostril. Flesh marks are often associated with a snip continuing onto the upper lip. The flesh mark must be carefully distinguished from the snip.

Whorls - Whorls are permanent, irregular settings of coat hairs where the hair stream changes direction. They can neither be brushed or clipped out. They represent one of the oldest methods of identifying horses from birth. Like fingerprints, they vary in every animal. Whorls aid identification by their presence and by their absence.

They are found:
- universally on the forehead
- commonly near the crest (poll region to above withers)
- less commonly on the jugular, tracheal and throat region
- infrequently on the buttocks
- infrequently on the nasal region infrequently on the side of the neck, abdomen and stifle
- occasionally on the forearm and the girth region uncommonly on the upper lip
- rarely on the cheeks.

As you proceed down the list of sites, the presence of whorls becomes increasingly important as a distinguishing feature. Regardless of the number and irregularity of white marks present, locate precisely any whorls on the forehead and near the crest. Clearly specify the position of head whorls with reference to the midline and eye level and to each other, if two or more occur in close proximity. Describe the relationship between whorls and head markings carefully. If there is no frontal whorl look on the nasal bones. The absence of whorls on the forehead or crest of neck must always be mentioned in the narrative because it is a rarity.

When white markings are fewer and less distinctive, the presence or absence of whorls at other sites becomes increasingly important. If there are few white markings, at least five whorls should be located and described. In plain or ‘whole’ coloured horses and in grey and transitional grey horses a rigorous examination of all possible whorl sites is essential and whorls must be precisely described by type as well as location and relationship. This also applies to any Thoroughbred with one grey parent.

Whorls occur singly or in groups of 2 or 3. With a single whorl, describe its exact location and type. With multiple whorls describe their exact location, type and relationship to one another (eg. conjoined, separate, superimposed, diagonal, horizontal, vertical, triangular etc.)

Whorls take various forms, depending on the interface at which two or more flows of hair meet, eg. simple, tufted, linear, crested, feathered, and sinuous, and should be so described in the narrative. A guide for the description of whorl types is:

- Simple: a focal point into which hairs converge from different directions, described simply as a ‘whorl’ in the narrative. Some may be described as clockwise or anticlockwise (spiral arrangement of hair from the centre outwards).
- Tufted: a simple whorl where the hair converges into a tuft.
- Linear: two sweeps of hair meet from diametrically opposite directions along a line
- Crested: a linear whorl where the hair from each of the two directions rises up to form a crest.
- Sinuous: two opposing sweeps of hair meet along an irregular curving line.
- Feathering: two sweeps of hair meet along a line but the direction of flow of each sweep is at an angle to the other to form a feathering. Some featherings may be described as fanlike; usually they can be described by direction, ie. upward, downward, backward and forward. Feathering in the flanks and pectoral regions is not useful as a distinguishing feature but just occasionally a discrete whorl is found close to but apart from this feathering. Such a whorl is a useful distinguishing feature.

Dispersed White Hairs

Dispersed white hairs may be evenly distributed throughout the body coat over wide areas (to resemble a true roan) or over localised areas, or maybe clumped as small collections and unevenly distributed. These variations are defined as:

- Ticking: the presence of isolated white hairs distributed throughout the coat in any part of the body. The degree may vary from light to heavy. Describe their location.
- Flecking: small collections of white hairs distributed irregularly in any part of the body. The degree may vary from light to heavy. Describe their location.

Concentrations Of Coloured Hairs

Concentrations of coloured hairs - aggregations of non-white hair of a different colour to the body coat can be classified and described as:

Black Mark: small areas of black hairs on white (‘ermine marks’). Describe their colour and position.
Small marks or spots of any other colours on coronet, pastern or heel markings can be easily overlooked in poor conditions or light.

**Spots**
small, more or less circular, collections of hairs, differing from the general body colour, in any part of the body. Describe their location.

**Patches**
larger, well defined irregular areas of hairs differing from the general body colour not covered by the above definitions. Describe the colour, shape, position and extent. Scattered patches of white and black hairs are not uncommon in chestnuts. Chestnuts can have black patches over thighs, ribs and shoulders. If these are extensive they should be noted only in the description, not the sketch.

**Zebra Marks**
(also called Tiger Stripes) transverse, parallel, black stripes across the back of the forearms and front of the gaskins and rarely across the neck, shoulders, withers, or quarters.

**Dorsal Stripe**
(also called Eel Stripe or Eland Stripe) is a narrow black stripe running from the withers down the centre of the back in dun horses.

**Odd Coloured hairs**
may appear in the mane and tail and their presence should be noted.

### 5. Acquired markings (other than brands and tattoos)

There are numerous acquired markings which are permanent and wherever these occur they should be described. They include scars, firing marks, bandage marks, saddle marks, girth marks, and other harness marks, nicks to ears and nose, missing chestnuts, broken and/or missing permanent teeth, or dropped hips.

### 6. Brands and Tattoos

Thoroughbreds registered in Australia and New Zealand must be branded with the breeder’s or owner’s registered brand and distinguishing numerals, which consist of a reference number over the last figure of the season of foaling. Brands should be on the left and right shoulders, left and right thighs, left and right neck, and rarely on the left jaw or front hoof.

Queensland Thoroughbreds are normally branded only on the left shoulder, but in all other States and New Zealand the registered brand is usually located on the left shoulder and distinguishing numerals on the right shoulder. If the brand is blotched or indistinct, it is recommended that the site of the brand be clipped so that any part still legible can be described.

Freeze branding is the only method of branding acceptable for Thoroughbred horses branded in Australia. Freeze brands must be clearly visible as permanent white hair markings. They must be drawn and described exactly as they appear.

Alpha-angle freeze branding is used on the offside neck of Standardbreds.

Horses bred in the USA are usually tattooed inside the upper lip with a letter and numerals and possibly with an asterisk. Horses bred and imported directly from Europe are unlikely to carry either brands or tattoos, unless they have been registered in Australia or New Zealand.

Imports must be branded prior to registration for racing.

### 7. Congenital abnormalities or individual peculiarities

Any congenital marking or individual peculiarity which cannot be included in the description under other headings should be clearly described and entered on the sketch. There is a wide variety of these, but those commonly encountered include:

**Showing the white of the eye** - where some part of the white of the eye shows between the eyelids

**Wall eye** - an exclusive term to describe a lack or partial lack of pigment in the iris to give it a pinkish or, more usually, a bluish white appearance

**Eyes with other colour variations:**
- Roman nose, dished face
- Lop ears
- Undershot jaw (parrot mouth), overshot jaw
- Abnormal dentition if considered permanent
- Missing chestnuts or vestigial chestnuts
- Muscle indentations on neck and around the point of the shoulder (Prophet’s Thumb mark, dimples)
- Unusual or abnormal neck, back or leg conformation
- Variations in hoof colour (white segments in a dark hoof)
- Deformities of the hooves (if considered permanent)

### 8. Written Description

A precise, accurate and concise written description must enable the identification of the horse without a sketch or photograph. The written description should be typed, or must at least be neatly printed in block letters. The original of your written description will be used in a horse’s papers to accompany it through its racing and breeding career.

The shape, location and relationship to one another of markings and whorls are extremely important and must be described in writing wherever possible. This is vital in plain, near plain and grey horses.

### 9. The Sketch
The sketch supports the written description, which remains the most important part of the description. The symbols and marks used on the sketch are detailed below.

In completing the sketch it is recommended that the head markings be drawn first. The position of the whorls on the forehead or nasal bones can be best indicated by relating them to the level of the eyes.

The limb markings should be drawn standing on the left, then right and finally the rear of the animal to facilitate the recognition of marks on the heels.

Whorls on the neck, flank and point of buttock should be added last.

It is further recommended that:

- A black ball point pen to be used to permit the production of a clear photocopy.
- White head markings to be drawn in outline and lightly hatched (please do not cross hatch).
- A few white hairs to be indicated by a few lines
- Bordering to be indicated by drawing a double outline
- A flesh mark to be drawn in outline and shaded a solid colour
- Limb markings to be outlined and lightly hatched (please do not cross hatch)
- Coloured spots (chestnut or ermine marks) on white leg markings to be outlined and shaded a solid colour
- Whorls to be pinpointed by a small St. Andrew’s cross (x) and feathered whorls by an x- or -x depending on the direction of the feathering.
- Flecking and ticking to be indicated by small, light lines scattered over the area.
- Scars to be pinpointed by a horizontal arrowhead with the base open between the barb-and the shaft
- Prophet’s Thumb mark or a dimple to be located by a small triangle

CHAPTER 4

The Pre-purchase Examination of Horses

Communication with the Client

Introduction

The pre-purchase examination is a difficult area of veterinary practice and one which many veterinarians prefer to avoid. It is, however, one of the most important services for the veterinary profession to provide. It is a demanding area, highly exposed to client scrutiny and attracting a disproportionate level of litigation and concern amongst equine veterinarians.

Aims

The pre-purchase examination should provide, within the limits of the examination undertaken, information on the health status of the horse in question, relevant to its proposed purchase. The purchaser should weigh up this information, along with other aspects such as performance, appearance, and the opinions of other authorities such as livestock valuers, trainers and instructors.

The client correctly believes that the veterinarian is the appropriate expert, and we must justify that conviction. If the veterinary profession deserts this important responsibility it leaves the way open for untrained “experts” to fulfil the role. Skill and diplomacy are required to deliver a useful report, without unduly obstructing a sale. It is as well to remember that most sales are conducted in good faith, and most horses are “serviceable”, this being influenced not only by the health of the horse but also the requirements and expectations of the client.

Warranty?

It is important for the client to understand that a pre-purchase examination is not a warranty, although this is often the perception. It is, however, incumbent upon the veterinarian to reveal any clinical conditions which a competent examination would detect.

For whom do we act?

While a veterinary examination can be undertaken for anyone requesting the service it is the strong recommendation of the AEVA that such examinations should be conducted on behalf of the purchaser. In any case the information gained is privileged and confidential and intended solely for the person commissioning the examination.
The vendor or owner does not have an automatic right to the information. In most cases it is courteous as well as practical, with the client’s consent, to include this party in the discussion. Information gained in the course of a pre-purchase examination should not be divulged to a third party, or used for any other purpose.

Often either the purchaser or the owner will be represented by an agent, such as a trainer or an agistment proprietor. It should be clearly established and recorded in what capacity various persons are acting.

**Obtaining the brief**

Most mishaps in pre-purchase examinations occur due to misunderstandings and poor communication regarding the client’s requirements. It is important for the veterinarian to establish direct contact with the client (purchaser) or their agent. It is not satisfactory for the vendor to “arrange a vet check”.

While practice receptionists will often be the first point of contact, it is not their role to accept the brief, or declare “conflicts of interest”. It is safest to limit initial contact to the following information:

- Name of person requesting the examination
- Name, description of horse
- Owner of horse
- Purpose of examination
- Contact details

With this information the veterinarian may be able to judge if he / she is able to accept the brief (further notes on conflicts of interest follow). It is important to outline the extent and limitations of the proposed examination. The intended purpose for the horse is significant. The focus of examination for a broodmare is different from an athletic performance horse or a junior pony club mount. Concisenotes should betaken.

All examinations will include elements of the AEVA five-stage clinical examination. An overview of this examination should be presented. It is well to ask whether the client has any special concerns, such as any bumps or blemishes, or “unevenness under saddle”. It should be noted that such items as aesthetic considerations or athletic performance are beyond the scope of a pre-purchase examination.

While the majority of examinations are limited to a physical examination, the availability of further procedures, notably radiography, ultrasound, upper airway endoscopy and pre-purchase drug screening should be presented, with a discussion on the benefits and disadvantages of each.

Agreement should be sought and recorded on the type and scope of further investigations.

**Conflicts of Interest**

While in most cases it is desirable that the veterinarian commissioned by the purchaser is not the vendor’s regular veterinarian, situations occur where this condition is not readily met. The two parties may share and have trust in a common veterinarian, or an alternative may not be available. The following tests will determine whether the examination can proceed.

- Would you feel comfortable in the vendor’s presence in the face of an adverse finding?
- Have you fully declared your position to the person commissioning the examination, and invited them to seek an alternative veterinarian?
- Has the owner consented to allow you to reveal all practice records on the animal in question?
- While another member of the same practice might be more suitable, he or she would still be bound by the same constraints.

Once the veterinarian has been fully briefed, an appointment is arranged to conduct the examination. It is important to ensure that the proposed venue has:

- A handler capable of restraining the horse for scrutiny, as well as leading at walk and vigorously lungeing and/or riding it.
- A firm flat area for trotting and flexion tests.
- A strenuous exercise area.
- A box with subdued lighting for ophthalmoscopic examination.

It is difficult to perform a thorough examination under adverse weather conditions, such as strong wind or rain, or slippery or unlevel ground conditions.

**Reporting the Examination**

Any written report must carry a unique description of the horse examined. Veterinarians have in the past met with difficulty when defending reports, which do not specifically identify the animal in question, but rather refer to it by name. The AEVA Pre-purchase Examination Report has been designed to facilitate a comprehensive examination recording and report.

**AEVA Pre-purchase Examination Report Form**

Legal advice is that detailed reports are least likely to be challenged and most easily defended. The current AEVA form includes pages in duplicate to be issued to the client, retained for the veterinarian’s notes.
When using the AEVA form it is implied that firstly you are in fact a member of the AEVA and secondly that you are familiar with the AEVA Guidelines for the Pre-purchase Examination. If you are unable to fulfill either of these criteria then you must not use the AEVA form.

A separate page, the Vendor and Purchaser Statement, is included for the convenience of some transactions, although it is not appropriate in all circumstances.

**Vendor And Purchaser Statement**

This form is faxed or delivered to the purchaser, and completed in consultation with the veterinarian.

The purchaser will nominate a veterinarian or veterinary practice to perform the examination. While the examination is not designed to declare the animal “fit” or “suitable” for a purpose, the proposed purpose will assist in tailoring the examination to the purchaser’s needs. The asking price is not essential and the veterinarian should not offer advice on price. If this information is volunteered it should be recorded.

Any special examinations requested, including radiographic views should be recorded. The purchaser should acknowledge that information gained in the examination is to be used solely in the pre-purchase examination, and not to be divulged to any third party, or for any other purpose.

The vendor has the opportunity to disclose any relevant history and to offer an opinion as to suitability for the intended purpose. The onus to provide this information rests with the vendor, rather than the veterinarian.

In addition, consent is granted to perform the examination and it is acknowledged that each examination carries some risk to the horse. In particular, specific consent is necessary for special invasive procedures such as rectal examinations and endoscopy, while diagnostic nerve blocks would be outside the scope of the examination.

**Pre-Purchase Examination Report**

The first part of this report provides a unique identification of the horse examined. It should be noted that name, breed, and age are “as stated” for descriptive purposes, and are not attested by the examining veterinarian. The report is privileged and confidential and prepared solely for the use of the client, who is the person commissioning the examination. As it has been prepared at their direction it is not intended to be used by another party, or for a future sale. The report must be clearly dated as the findings are relevant for that time only. The report includes a generic disclaimer, widely used on veterinary reports in a number of countries:

*The veterinarian should make no determination and express no opinion as to the suitability of the animal for the purpose intended. This issue is a business judgement that is solely the responsibility of the buyer that he or she should make on the basis of a variety of factors, only one of which is the examination and report provided by the veterinarian.*

This disclaimer is fundamental to the client’s understanding of the scope and limitations of the examination. Too often a sale hinges on whether the horse “passes a vet check”.

The diagram should include such detail as will uniquely identify the horse (as described in detail in Chapter 3). This includes whorls, scars and markings. Any significant scar should also be noted and described in the report itself. Brands should only be included on the diagram if they can be identified on the horse.

A statement regarding medication in the last 45 days should be obtained from the vendor or agent. If no declaration is available, or if a time less that 45 days is specified, this should be noted rather that leaving this section blank.

The incisor teeth as checked for consistency with the horse’s stated age. It should be noted that a number brand does not in isolation validate age.

It is important to note whether the full 5-stage examination is conducted, and to record the type of exercise. If stages are omitted, for example in an unbroken horse this should be noted.

The second page of the report form provides a topographic checklist of the examination. Items are reported as:

- **NL** - within normal limits
- **AB** - abnormal
- **NE** - not examined

Abnormalities should receive further written comment in the report. All items should be completed.

The third page of the AEVA report form includes 5 sections:

1. **A record of special procedures discussed and requested.** This item is designed to avoid any future misunderstandings as to the scope and limitations of the examination performed.

2. **A note on work status.** It is preferred that animals, particularly those destined for high level athletic activity, are examined in full work, as some chronic lameness conditions will subside temporarily with rest.

3. **Comments on examination.** Any aspect previously listed as abnormal should be mentioned here, and any perceived clinical implications discussed. Many veterinarians will include a typed report on practice letterhead, referring to the examination report number. The presence of any accompanying reports should be noted on the form.
4. **Notes of Warranty.** It is stressed that a veterinary examination is not a warranty. Any warranty should be sought from the vendor.

5. **Veterinary Surgeon's Details, Including AVA Member Number.** The final page of the form is designed as a note page for the veterinarian, and is not issued to the client. It is, however, part of the clinical record. While the horse is not being certified as “suitable” for a purpose, the type and level of the proposed use should be noted.

If the client makes any special observations or requests, such as particular scrutiny of a splint or scar, or “unevenness under saddle” this should be recorded, as should any difficulties encountered such as weather conditions, facilities, handler or temperament. If the value of the horse is disclosed it should be noted, although it is outside the veterinarian’s area of expertise to discuss value.

Finally it should be recorded whether the veterinarian has been fully briefed by the person requesting the examination, or their agent, and whether the client has inspected or tested the horse.

**Presenting The Information**

Once the examination is completed, an oral report can be issued to the client. With the client’s consent, this information can be shared with the owner. Goodwill is often preserved by discussing findings in the presence of both parties if circumstances permit, although there are times where confidential consultation with the client is required.

The written report should be issued directly to the client as soon as it is completed, and the results of ancillary testing are to hand.

**No Pass or Fail**

The veterinarian should not “pass” or “fail” the horse, but rather report on clinical observation, together with defensible comments on their likely clinical significance.

*The Australian Equine Veterinary Association recommends that the term 'soundness' NOT BE USED and that great care also be used in the expression 'suitable for' purposes.*

A more appropriate term is “It is my opinion based on the tests performed that I can find no medical reason for this animal not being appropriate for its intended use”;

**The Clinical Pre-Purchase Examination of Horses**

It is the view of the Australian Equine Veterinary Association that with the evolution of pre-purchase examinations and the worry of litigation over misdiagnosis or misadventure after the fact, it has become necessary to consider the use of a three tiered examination protocol.

These tiers are best described as follows:

1. **Consultation and limited examination**
   - This is a procedure where a specific question or clinical entity is addressed. The horse is examined only for a specific reason, eg. the purchaser is about to buy the horse and notes that a joint, or tendon, or tendon sheath is not normal and requests an opinion on that specific question or clinical entity.
   - As such, taking into consideration that some other bodily function may be responsible for the condition and that this must be fully discussed during the consultation, the area in question is given a detailed examination and an opinion is then expressed.
   - This form of examination may also be used when assessing yearlings prior to sale.

2. **Restricted pre-purchase examination**
   - Limitations frequently arise over the examination of a horse, eg. it is examined straight out of the paddock, is unshod, or may be unable to be ridden due to lack of availability of a rider, etc. This places restrictions on the tests available to the veterinarian to complete the examination.
   - At this point, the examining veterinarian should consult with the purchaser as to the possible extent of the examination and state clearly on the certificate, the extent to which limitations have restricted the examination; eg. an unbroken horse (yearling) may not allow full examination of its feet etc. Problems like this should always be stated on the examination form.
   - Clearly, these horses may be lunged instead of being ridden, but again this must be clearly understood by the purchaser. Carefully defined limits and their attendant costs must be fully understood by both veterinarian and purchaser. Where cost is also a determining factor, this must also be fully discussed between veterinarian and purchaser. In essence, this examination encompasses Stages 1 and 2, and an extended Stage 3.

3. **Full pre-purchase examination**
   - This is the full and exhaustive examination that is undertaken when the purchaser requests a comprehensive examination. Again the purchaser must be aware of the extended time involved in the examination and therefore the significantly higher examination fee required for this service.
   - The examination of horses should be carried out carefully and thoroughly. A standard procedure for this examination is desirable and the following procedure has been established by custom and use and is very similar to the method recommended in the joint memorandum prepared by the Royal College of Veterinary Surgeons and the British Veterinary Association (1973).

We are indebted to the Royal College of Veterinary Surgeons and the British Veterinary Association for permission to adopt the wording of the joint RCVS/BVA memorandum, and the New Zealand Equine Veterinary Association. Whilst some few changes to the original wording have been made by the executive of the Australian Equine Veterinary Association, the wording used in describing the examination mostly originated from the RCVS/BWA memorandum. It is similar to that advocated by the New Zealand Equine Veterinary Association and by the American Association of Equine Practitioners. The examination is carried out in 5 stages and all the stages should be completed. If this examination is not the preferred option, it should be made clear on the certificate the way in which the examination has been varied and that any opinions are based on the restricted examination.
The Association holds the view that, irrespective of the value of the animal, or the intensity of the examination commissioned, the veterinarian has a duty to discuss all commonly employed methods of investigation, including:

- Physical examination
- Endoscopy
- Radiography
- Ultrasonography
- Electrocardiography
- Drug screening (blood/urine)

### Full Pre-Purchase Examination - Five Stage Examination

1. **Preliminary examination**
   - The preliminary examination should include an accurate description of the animal and a seller’s or seller’s agent statement of the past history of the animal. As the description is completed the veterinarian has an opportunity to subtly scrutinise the horse for conformational defects and cosmetic blemishes such as scars and splints. Notes on conformation are included below. Inclusion of medication schedules is important, particularly steroid and non-steroidal anti-inflammatory drugs and tranquillisers.

   This stage is best conducted in the stable, in which the horse has been at rest for at least half an hour. This part of the examination is preferably carried out in the animal’s usual environment. Careful observation is necessary to note the animal’s general appearance and condition. It is desirable that the horse be quietly observed for a short period in the stable before the preliminary examination to ensure that any obvious stable vices are not overlooked due to the catching or holding of the horse by the owner or attendant.

   The veterinarian should develop the habit of examining a horse methodically, so that there is no chance of inadvertently overlooking any part. It is recommended the examination commence at the head and work back over the body, down the limbs of the near side and then follow with a similar examination of the off side. The teeth should be examined and the animal’s age assessed. This should be compared with the stated age. It should be borne in mind that the ageing of horses over 5 years of age is an inexact estimate. A number brand is not definitive evidence of age. The incisor teeth should be examined for abnormal wear indicating crib-biting and the correctness of the bite checked. The resting heart and the thorax should be auscultated. Any heart murmur should be carefully assessed, although most murmurs are asymptomatic.

   The eyes should be examined by menace test, and with a focal light source and an ophthalmoscope. It is important to transilluminate the anterior chambers, looking for corneal scars and adhesions. The fundus should be inspected by ophthalmoscope - it may be necessary to examine the horse in darkness or perform pupillary dilation to achieve this. The nostrils are examined for discharge or other abnormality. The nasolacrimal duct should be inspected. The head should be examined for muscular and bony symmetry. The paranasal sinuses are percussed for an even, hollow sound.

   The veterinarian should run their hand over the animal’s body and limbs to ensure that they have not missed any abnormalities or lesions. The horse should be turned right around in the box or stable and each of the feet should be picked up, cleaned out and examined and the limb joints flexed, extended and rotated to detect any pain or limitation of movement. Hoof testers should be applied around the sole, across the heels and between the frog and heels. Detailed palpation of the flexor tendons and suspensory ligament should be conducted. Tendons should be palpated for thickening or pain on deep palpation. The suspensory ligaments should be examined for swelling, excessive pain, or thickening, especially in the suspensory branches or the sesamoid attachments. The entire splint bones should be palpated. All joints should be inspected for effusion, especially the carpal joints, the fetlocks, the stiltles and the hocks. The carpi should be examined in flexion, with careful palpation of the articular rim. The upper limbs should be raised, flexed, extended and rotated, and the musculature palpated for spasm, wasting, and symmetry.

   The back should be gently but firmly palpated with an open hand to assess muscle tone and spasm, particularly in the lumbar area. Firm stimulation with a blunt object such as the end of a pen should stimulate smooth ventroflexion followed by dorsi flexion moving caudally. Repeatable, exaggerated responses, and rigid “dipping” should be viewed with concern.

   The horse should then be brought outside and thoroughly inspected from all sides in daylight. If any obvious defect is present which would prevent the animal from being suitable for the purpose for which it is being examined the examination should be discontinued.

2. **Examination during walking, trotting, lungeing, turning and backing**

   The animal should be walked and trotted on hard, level ground - if possible by an attendant used to handling horses. The horse should be walked twenty metres away from the veterinarian, turned and walked back. The horse should then be trotted away for thirty or forty metres and trotted back. The horse should then be led in such a way that there is no interference with its free action or with the veterinarian’s view. The horse should then be turned one way and then the other and made to back several paces. Following this the horse should be lunged in a tight circle on firm ground in both directions. While some horses find this manoeuvre awkward, it will reveal lameness not evident in a straight line. Comparisons can be made between clockwise and anticlockwise directions of lungeing.
At this point limb flexion tests should be undertaken. Flexion tests are discussed separately below.

These preliminaries are necessary before the horse is strenuously exercised. If the animal is not fit to be exerted for some reason noted during the inspection in the stable or if it is lame when trotted, the examination should not be continued. The examination of animals with ailments or injuries, which the owner suggests are only temporary, may best be postponed until the complaints have been resolved. If everything so far has been seen to be in order, the animal should then be strenuously exercised.

Stage 3. Examination during and immediately after strenuous exercise

It is important the owner of the horse under examination has given consent for the horse to be exercised, particularly if transported to a racetrack for Stage 3 of the examination. An alternative is to work the horse vigorously on a lunge rein, first in one direction and then equally in the reverse direction.

The object of this stage is to exert the animal, not to exhaust it and its age, condition, stage of education and fitness should be taken into consideration in every case. The animal should be given sufficient exercise:

- to make it breathe deeply and rapidly so that any unusual breathing sounds may be heard
- to increase the action of the heart so that abnormalities may be more easily detected
- to give sufficient exercise to the animal so that strains and injuries may be revealed by stiffness or lameness after a period of rest

Performance horses should, wherever possible, be examined at the racetrack or work track where every risk of injury is minimised. Riding horses should be ridden or lunged at a canter for five to ten minutes and the horse should pass close to the veterinarian on each circuit so that they may hear its breathing. Where possible the speed should then be increased to a controlled gallop, the animal again passing close to the veterinarian until they indicate the horse should be pulled up so that they can auscultate the heart and observe the rate and depth of breathing. Ridden gallop exercise is of greatest importance in animals examined for high intensity competition such as racing or eventing.

Sometimes the purchaser may have previously tested the horse at the gallop and made observations on respiratory noise. Further exercise may be given if necessary. Untrained animals and those too young or too small may not be able to be tested in this manner and this should be stated on the certificate. Similarly, not all circumstances will allow this level of examination under exercise and any such limitations should be discussed with the client and recorded. The horse is then returned to the stable.

If the horse is not handled, Stage III of the examination will not be possible and this must be noted on the certificate.

Stage 4. Examination during the period after exercise

The horse should be allowed to stand quietly in the stable for at least half an hour. Vigorous strapping or other attention by the groom defeats the object of the rest period. During this time the veterinarian should observe the breathing and check the heart beat as it settles. Where any lameness is suspected, it is advisable that the horse be allowed to cool for at least 1 hour before the final examination. Careful observations should be made of the horses’ movements (i.e. pawing, continual weight shifting, pointing of toe etc).

While the horse is resting the report form can be perused and completed where applicable, in particular the check list on the second page. Any areas previously overlooked can be examined while the horse is cooling down. Special tests such as drug testing and X-rays can be undertaken at this time.

Stage 5. The final examination including walking, trotting, lunging, turning and backing

The horse should be brought out and walked, trotted or lunged as before. Very careful observation should be made of the horse’s gait in the first half dozen paces as it is led out of the stable. It is then turned around sharply, first one way and then the other and made to step back a few paces. If there is doubt about the condition of the feet, the animal’s shoes must be removed. The owner’s permission should be obtained for this and it should be agreed that it is his or her farrier who will replace the shoes.

Flexion Tests

Flexion tests are a controversial examination, and their significance should not be overemphasised. Many normally performing horses will show some reaction to limb flexion. These tests can, however, alert the veterinarian to an area requiring further investigation.

Each leg is flexed in turn for one minute. All lower limb joints are included. An attempt is made to achieve consistency in the degree of pressure applied. The force exerted by the weight of the limb is a good standard, as excessive pressure will elicit a pain response in many normal horses.

The horse is trotted out 10 or 15 steps in a straight line, and any unevenness noted. The following points should be considered:

- Symmetry of response between legs
- How long the response persists: 2 or 3 lame steps are not as significant as prolonged soreness
- Age and work status of the horse. Older horses and those which have experienced hard work will commonly display low grade responses
- Forelimb fetlock flexion tests are more variable than those performed on other joints. An abnormal flexion response in the carpus or hock is more likely to be indicative of a potential clinical problem.
Positive flexion tests may point to significant arthrosis or articular chip fractures. It may also be indicative of chronic low grade capsulitis of no clinical significance, or be a manifestation of old periarticular trauma.

Reactions to flexion tests should be noted in detail and their possible significance discussed. Rarely should a positive flexion test alone be a reason for rejecting a horse.

Conformation

The veterinarian should generally confine remarks on conformation to abnormalities of potential clinical significance, rather than aesthetic considerations, which might more properly be considered by the show judge. If required, reference should be made to standard equine texts for more detailed discussion on conformation. Limb conformation is of special significance. Viewed from the front it should be possible to visualise a straight line drawn from the point of the shoulder which bisects the knee, fetlock, pastern and hoof. Viewed from behind a similar line bisects the hock, fetlock and foot. The following conformational errors are commonly found and should be noted if obviously present:

- Fetlock or carpal deviations
- Pigeon toed
- Back at the knee
- Off-set knees
- Cow hocks
- Club foot

Full Examination Check List

Where a full examination has been requested, then the detailed examination of the horse should cover examination of the following areas (this list is a guide only and is not intended to be complete).

**Mouth**
- Teeth abnormalities and age (use gag if necessary)
- Crib biter
- Under or overshot jaws
- Presence of tumours
- Gum colour

**Nose**
- Normal airway
- Presence of any discharge
- Presence of tumours, atheromas
- Over or undersize external nares
- Nasolacrimal orifice

**Eye**
- Evaluate for reduced vision by menace response
- Cataracts, jaundice, ulceration
- Pupillary light reflex, lacrimal discharge
- Difference in tone, size of globe, corneal spots and scars
- Presence of uveitis, adhesions
- Use focal light source and ophthalmoscope to evaluate internal eye structures
- Where abnormalities are found, double check horse’s vision by blindfolded obstacle test

**Head**
- Percuss over sinuses
- Note split or lop ears
- Check over poll for injury or sensitivity

**Jowl, ventral neck**
- Check any abnormal swelling for presence of infection, (eg. strangles)
- Salivary gland abnormalities
- Guttural pouch enlargement
- Palpate larynx on both sides for muscle atrophy (prominent muscular process) and change in respiratory noise
- Check both jugulars are present and functioning with in normal limits
- Check for evidence of surgical interference to larynx or neck
**Neck, withers, back**

- Flex neck dorso-ventrally and laterally
- Gently palpate along backline for normal reflexes
- Presence of soreness and swelling at withers (bursitis)
- Saddle injury / presence of white hairs caused by poorly fitting gear
- Look for saddle galls and palpate dorsal spine of vertebral column
- Check muscle wastage, myositis, nerve paralysis of shoulder area
- Palpate vertebral column of back, loin and croup to assess injury or bony changes to dorsal spines
- Check sacroiliac articulation and muscle wastage, asymmetry of hips and back generally
- Check tail carriage, placement and tail tone, and if required, note if crupper could be applied; check for tumours
- Check anal sphincter and tone; check for tumours

**Thorax and Abdomen**

- Check for presence of girth galls, white hairs
- Check for broken ribs
- Check for swellings in inguinal region - hernia, scirrhus cord, tumours, ventral and other hernias

**Cardiovascular and Respiratory system**

- Auscultate heart and lungs
- Note any abnormal findings such as arrhythmias, murmurs, increased (heaves) or decreased lung sounds;

**Genital system - Female**

- All mares
  - Vulvar conformation and whether Caslicked or not
  - Check udder for two teats; presence of fibrosis may indicate chronic mastitis

- Breeding mares
  - Presence of any foaling injuries
  - Breeding examination to include manual and ultrasound examination of cervix, uterus and ovaries
  - Discuss uterine biopsy as a prognostic tool
  - Permission and suitable examination area should be provided by owner

**Genital system - Male**

- All males
  - Check penis for abnormalities, eg tumours
  - Any disease of prepuce
  - Presence or absence of testicles in scrotum
  - Check behaviour is consistent with entire or gelding
  - Double check for cryptorchids
  - Note any abnormalities

**Breeding stallion**

- Observe libido
- Tease mares
- Check service pattern
- Observe for such vices as biting mares, self-mutilation, hyperexciteability, kicking at mare on dismount, savaging mare during or after service
- Observe general demeanour and ease of handling

**Overall Assessment**

- Body condition General
demeanour Check gait
for wobbler
- Check conformation of all limbs
Detailed Examination of Limbs

All limbs should be flexed and extended at each joint
Flexion tests should be performed on all limbs
Feet should be clean or cleaned. Carefully and gently press with hoof tester for soreness; note any of the following conditions

Foot
- General state of horn and sole
- Laminitis or general changes to wall
- Sand crack
- Quarter crack
- Thrush
- Dropped sole
- Seedy toe
- Tied in heels
- Low heels
- Long toe
- Club foot
- Symmetry of feet

Coronet
- Breaks in coronary band
- Buttress foot
- Side bone and low ringbone
- Quittor
- Any other bony abnormality or scarring

Pastern
- Ringbone
- Sprain of flexors or branches of sesamoidean ligament
- Flex and extend joint

Fetlock
- Flex and rotate
- Examine for joint effusion
- Tendon sheath effusion (windgalls)
- Sesamoid changes
- Pain, enlargement around joint
- Test for crepitation and pain
- Use flexion test if required

Cannon bone
- Check tendons
-Suspensory ligaments
- Splints
- Tendon sheaths
- Bony changes
- Palpate for shin soreness
- Place pressure on the origin of the suspensory ligament.

Knee
- Flex and rotate
- Examine for carpitis
- Hygroma
- Accessory carpal injury and tendon sheaths
- Swellings and restricted flexion
- Use flexion test if required

Forearm
- Old wounds
- Tendon sheaths
- Exostosis
- Dropped elbow and nerve paralysis
Shoulder

Extend and flex
Check for muscle atrophy, including sweeney, bicipital bursitis,

Hindlimbs

Same as for forelimb up to hock joint
Flexion tests

Hip

Extend, flex and abduct hind leg
Deep palpation

Stifle joint

Check for patella problems
Ligament function
Surgical interference
Effusion of femorotibial and femoropatellar joints.

Examination of Ponies

The standardisation of the examination of ponies for sale in Australia is fraught with difficulties because of the great variations in value, the many different purposes for which they are to be used and differing facilities for carrying out the examination.

Attention is drawn once again to the desirability of acting for the purchaser and not on behalf of the vendor.

Where the value warrants it (eg. competition pony) and facilities enable it, then a full examination should be carried out as recommended in stages 1-5.

Where a limited examination is carried out because of the animal’s limited value or inadequate facilities or some other reason, then this should be stated on the certificate if one is requested. Where possible the issuing of a written certificate should be avoided where a complete examination has not been carried out.

Examples of CONDITIONS which may be observed (this list is a guide only and is not complete)

Lameness
Laminitis
Strained tendons or ligaments
Cutaneous tumours and other skin lesions
Cutaneous melanomas
Sarcoids and fibromatous lesions, including peri-ocular masses,
Ocular lesions, including blindness, recurrent uveitis, cataracts
Joint or tendon sheath effusion at any location
Feet abnormalities
Low-slung heels with poor wall quality, dished toes and flat soles, sand cracks, thrush, corns, sidebone, sensitivity, thin soles,
Coronet and heel lesions
Splints
Cryptorchids
Any form of contagious disease
Evidence/history of surgery - colic/joint/splint etc
Congenital abnormalities eg undershot, overshot jaw
Hernias, eg umbilical, inguinal
Neurological abnormalities, eg. wobblor, stringhalt, cranial nerve defects, muscle atrophy at any site
Wounds, particularly those that appear to be not healing or have a malodorous discharge
Evidence of gait abnormalities, eg. uneven wearing of the shoes or feet, evidence of speedy cutting etc.
Bad teeth
Abnormal swellings, particularly of the pharyngeal region which may suggest Strangles or guttural pouch disease

Examples of BLEMISHES which may be observed (this list is a guide only and is not complete)

Capped hock
Capped elbow(shoe boil)
Windgalls
Thoroughpin on lower limbs
Scars on legs around joints and tendons
Corneal scars
Previous firing
Crooked tail
New bone growth
Splints
Hygroma of carpus
White hairs as a result of injuries

Examples of VICES which may be observed (this list is not exhaustive)
Biting
Bucking
Cribbing
Kicking
Running away when being ridden
Shying
Viciousness
Weaving
Stall walking
Tail wringing
Tail rubbing

Pre-Purchase Examinations for Specific Destinations

Some countries such as Malaysia, Singapore and Hong Kong have specific importing requirements for racehorses. The examination conducted should be based on the AEVA 5-stage examination, but must include specific examinations as directed, including radiographic studies.

In accordance with AEVA Policy, it is advised that horses not be certified “suitable” for flat racing, and that any such reference be deleted. This course of action has been negotiated with the relevant racing associations.

Special Note on Professional Indemnity (PI) Insurance for Overseas:
Destinations
Veterinarians should ascertain whether their PI insurance covers them against legal actions commenced in foreign countries, notably South East Asia and North America.

Specific Health Requirements of Importing Countries:
Various importing countries have specific disease exclusion policies, notable Equine Infectious Anaemia, Equine Viral Arteritis, Contagious Equine Metritis and Equine Piroplasmosis. If an animal were being examined with a view to export, it would be prudent for the purchaser to request relevant disease screening.

Examination of Racehorses for Syndication

Corporate law requires a veterinary inspection prior to syndication of racehorses. This examination is not conducted at the level of the AEVA Five Stage Pre-purchase Examination, but rather at the level of a Mortality Insurance Examination. For guidelines on this examination refer to AEVA Insurance Examination Guidelines. The following wording should be included in the certification:

“This report was prepared for inclusion in a promoters disclosure statement but is not a pre-purchase report and I confirm that I have no financial interest in any monies raised from the promotion.”

Specific Conditions of Note

Cutaneous tumours - Cutaneous melanomas are commonly observed in grey horses over the age of 10 and are seldom of any clinical consequence. They are most common in the perineal region and around the base of the tail. They may also be seen in the parotid area, where they may be associated with primary guttural pouch lesions. Large masses in the throat or perianal area may interfere with function and lesions in the saddle, bit or bridle area are subject to irritation and abrasion.
**Sarcoils and fibromatous lesions** (including peri-ocular masses) should always be viewed with caution, as their course is hard to predict.

Histopathology may be required to identify and manage cutaneous lesions, and these procedures are best commissioned by the owner/vendor prior to sale.

**Ocular lesions**
Any ocular lesion, particularly retinal lesions, should be considered in the light of possible recurrent equine uveitis. Synechiae, cataracts, corneal scars and retinal abnormalities are commonly encountered and specialist consultation should be contemplated.

**Poor feet**
Poor feet are often a career-limiting condition in horses. Low-slung heels with poor wall quality, dished toes and flat soles are viewed with concern.

Coronet and heel lesions are often of no clinical significance, but if abnormal wall growth occurs there is a risk of recurrent infections or injury.

Any evidence of laminitis is significant.

**Splints**
In most cases splints will not be a source of long-term lameness, but a blemish often persists. Pain, heat or lameness are of concern and gross exostosis may result from fracture, or may interfere with soft tissue function. Splints are often associated with lateral off-set to the cannon bones.

**Evidence / history of surgery** – particularly colic, joint, splint surgery
A history or evidence of surgery should be considered in the light of the physical examination. Any known chronic complications of the surgery should be discussed. For example, abdominal surgery increases the risk of future colic attacks, and medial patellar desmotomy may induce femoropatellar arthrosis.

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**CHAPTER 5**

**Additional Procedures in the Pre-Purchase Examination**

**Radiology**

**AEVA Guidelines for the Use of Radiography in the Pre-Purchase Examination**

**Introduction**

Radiography is not considered a routine part of the pre-purchase examination (PPE). It is regarded as a special procedure that may accompany the PPE. For this reason it is important that the expectations and requirements of the client in regard to radiography and the PPE be determined prior to the examination taking place. Radiography is used in an attempt to determine the significance of a clinical finding and to predict the future prospects of the horse. While in many instances it can be useful, it can also be misleading. Many horses can compete to a very high standard despite obvious radiographic lesions. Many older horses will have some degree of radiographic change and interpreting the current and possible future significance of the changes is very difficult. Radiographs should be used to provide additional information to the client, which can be used in conjunction with results from the other examinations to assist in determining if they wish to purchase the horse.

It is important the purchaser is aware of the aims and limitations of presale radiography, particularly the fact that the survey radiographs will not detect all possible abnormalities.

**Requests for Radiography**

A request for radiography may occur as a result of:

- a request by the purchaser for a general radiographic survey associated with a PPE
- a request by the purchaser for radiographs of a specific area
- observations made during the clinical examination
- the specific destination of the horse
- a request for survey radiography of young or adult horses without an associated PPE

**General radiographic survey associated with a PPE**

A request by the client to take radiographs of a horse as an additional procedure to the pre-purchase examination is a common occurrence. The veterinarian needs to discuss with the purchaser if any specific radiographs are required or if a general radiographic survey is requested. Clearly it is not possible to radiograph all joints or regions in every horse that is undergoing a PPE.

The aim of survey radiographs is to examine those regions, using particular views, that are most likely to yield clinically significant lesions that may affect the long term usefulness of the horse.

It is important the client is aware of the aims and limitations of pre-purchase radiography. It should be stressed to the client that survey films do not represent a complete radiographic examination, and it is not guaranteed to detect all possible abnormalities.

The recommended views for commonly evaluated areas are presented below. If all recommended views are not taken, for example because of for...
cost constraints, limitation in the number of plates available, or the type of horse being examined, then this should be documented and the client advised of the limitations. Contrast studies are not routinely performed in a pre-purchase examination. Radiographs specifically requested by the client Clients may request only specific areas of the horse be radiographed (eg navicular bones and feet). It should be noted on the report that the client has specifically requested that these sites, and no others be radiographed. The routine recommended views for this area can be used as a guide as to which radiographic views should be taken. Occasionally the client will request that areas not generally included in the routine examination, be radiographed. In this circumstance, the client should be advised of the number of additional views this may involve and the cost involved in completing the requested studies. If the veterinarian does not have the technical capability of taking good quality radiographs of these areas (eg shoulders, neck or stifles), the client should be advised and the horse referred to a clinic that is capable of taking such radiographs.

Additional views/joints may be included in the pre-purchase examination as a result of specific requirements of the client or the breed or potential use of the horse. For example a client purchasing a Quarter horse may ask that the navicular bones and hocks be radiographed only.

Following the clinical examination

Radiographic investigation of a specific anatomic location may be indicated following the pre-purchase examination. You may recommend to the purchaser that radiographs be taken of any areas where an abnormality has been observed during the clinical examination. The purpose of radiography in this instance would be to provide more information about an area which may assist in the decision making process. Occasionally, a particular view is needed to rule out certain suspected pathology.

For example a positive flexion test on a joint or the detection of joint effusion in the pre-purchase clinical examination may necessitate specific radiographic investigation of that joint.

It may be advisable to radiograph areas associated with blemishes or scars, particularly if they are near to joints. It is important to always give the client the option of taking radiographs if an abnormality is found during the clinical examination. If for example a large scar is evident over the midcarpal joint it is unwise to advise a client against taking radiographs based purely on your clinical assessment (ie no apparent joint effusion, flexion tests within normal limits, no pain on palpation or no lameness evident). If radiographic changes are present, although apparently clinically insignificant at the time, their presence may alter the purchasers decision to buy the horse. The purchaser should be advised that such changes may result in future lameness or may affect the potential resale of the horse.

Always advise the purchaser that radiographs may provide further information on any abnormality that may be evident.

If the client declines to have radiographs taken, which usually occurs on the basis of the additional expense involved, this should be noted on the report. The limitations of the examination in the absence of radiography should be noted.

The specific destination of the horse

Racing Associations in the country of destination of the horse may have varied specific requirements for radiography, including nominating which joints should be radiographed and which views are required.

Furthermore, the specific requirements for each country may change over time, therefore it is important to establish the up-to-date exact requirements for the country of destination prior to the radiographic examination.

Commissioned Survey Radiography - young horses (yearlings and weanlings) and adults

The AEVA Guidelines for Pre-sale Radiographic Examination of Yearlings is contained within this document and the AEVA recommends that veterinarians consult these Guidelines before taking radiographic examination of yearlings

Survey radiography of young horses, most commonly yearlings or weanlings, is frequently requested prior to these horses being sold at public auction. In some circumstances a purchaser may also request that survey radiographs be taken of a mature horse and be forwarded to a veterinarian of their choice, either in Australia or overseas.

On such occasions the radiographs are taken without any associated clinical examination. In addition these radiographs will often be kept in the possession of the owner or vendor and may be made available for public viewing by potential purchasers of the horse or their veterinary advisors.

The AEVA therefore advises that:

The medical record should include information regarding the person commissioning the survey radiographs, the identification of the horse, any medication used and any special requirements.

In such cases the veterinarian is obligated to ensure that the quality of the radiographs as well as the views taken are as required by the client or the sales company involved in the auction of that horse.

AEVA strongly recommends that only appropriately qualified veterinarians report on such radiographs.

Reports should be labelled as being prepared for a specific client, with a direction that they should not be relied on by any third party.

Reports that are not so labelled, or are headed “To whom it may concern” must not be prepared.

It is recommended that the report be accompanied by an appropriate disclaimer which defines the limitations of the material provided such as the following:

“These radiographs were taken as a survey of the most common sites for a lesion. They are not, nor are they meant to be a complete examination of the joints radiographed. They will identify approximately 90% of common lesions. To identify the remaining infrequent lesions or to provide complete coverage of all joints would require many more views. These survey views usually represent the best combination of coverage and economics. It is not a warranty of suitability, soundness or saleability.”

Equine Veterinarians Australia (EVA) Members Handbook 2006 142 -
“The veterinarian can make no determination as to the suitability of the animal for the purpose intended. This issue is a business judgement that is solely the responsibility of the buyer that he or she should make on the basis of a variety of factors, only one of which is the report provided by the veterinarian. The contents of this report are privileged and confidential and are prepared solely for the use of “XXX”. This report is valid at the time of issue only.”

Therefore, it is not considered necessary in such situations for the veterinarian who has taken the radiographs to provide any radiographic report. The AEVA strongly recommends that if veterinarians taking the radiographs feel they do not have sufficient expertise to provide an appropriate written report then the client be advised of this and the films be referred to another veterinarian for review.

The veterinarian taking the radiographs should comply with the general standards of taking pre-purchase radiographs with regard to patient preparation and identification, film labelling and quality, as well as ensuring that the series of radiographs obtained is as required for that particular sale.

The technical requirements of radiography in yearlings are similar to those in adult horses. In addition, any specific requirements of the particular sale company being used to sell the horse should be determined prior to radiography being undertaken. Factors to take into consideration include the particular views required, the time prior to sale when radiographs should be taken, and when radiographs may need to be submitted to the sales agents for placement in a repository.

The sales company’s minimum radiographic requirements must be met, as acceptance of a submission of radiographs by a vendor to a repository is at the discretion of the sales company.

As a veterinarian may be evaluating the same series of radiographs for different clients it is important in each case to determine who is the veterinarian’s client before undertaking to evaluate a set of films and report findings. In such cases client confidentiality must be maintained to protect the integrity of the veterinarian as well as the commercial interests of the vendor and purchaser.

It is important the client is aware of the aims and limitations of pre-sale radiography. It should be stressed to the client that survey films do not represent a complete radiographic examination, and it is not guaranteed to detect all possible abnormalities.

Survey radiographic views that are suitable for the pre-sale evaluation of young horses and adults are presented separately below.

**Radiographic Technique**

There are many factors that need to be considered when taking the radiographs. These include:

- **Number of films & views**

When radiography is included in the pre-purchase examination, a minimum number of views is recommended. It is recommended that films are limited to one view per film where sufficient cassettes are available. If the client requests less than the recommended number of films be taken, the veterinarian should inform the client of the potential problems associated with an incomplete study. The decision to proceed with a limited study should then be noted in the pre-purchase report.

- **Film Quality**

It is important that radiographs taken in the pre-purchase examination are of optimal quality and provide sufficient detail to allow all radiographic lesions, regardless of their subtlety, to be detected. Errors in diagnosis are frequently the result of poor film quality. Poor quality radiographs can often result in misdiagnoses, which may be very obvious on repeat good quality views when a second opinion is sought. As a guide, films of sufficient quality are easily read on a light box and will show:

  - joint spaces
  - trabecular detail
  - articular margins, including osteophytes

The following factors should be considered when taking radiographs:

- **Radiographic screens**

Screens intensify the image. They characteristically emit either blue or green light, which exposes the film. A blue-sensitive film will not be adequately exposed with the green-emitting screen and vice versa. It is therefore important to ensure the correct film-screen combination for both the x-ray machine and the region being radiographed is utilised.

Ensure cassettes are not warped by excessive use. A tight fit between screen and film maximises detail and eliminates light leaks. Screens should be cleaned on a regular basis using standard screen cleaner. Any dirt or foreign material in a screen has the ability to produce an artefact that may mimic a radiographic lesion, or obscure a lesion. Screen age is important and over time they become less efficient.

- **Technique chart**

Exposure varies with the thickness of the part being examined, the film and screen combination and the capacity of the equipment. Exposure charts should be established for the particular x-ray machine, the size/age of the horse and for each specific area to be radiographed. Once an exposure chart has been established it is important to maintain the correct film focal distance (FFD) when taking each view. In equine practice, the FFD is generally 75-100cm. Reducing the FFD results in increased radiation reaching the screen, and alteration in the exposure factors are then required to account for this.

- **Grids**

Grids may be used to reduce scatter in areas greater than 11-12cm thick. In these thicker sites, the amount of scatter may be enough to affect the quality of the radiograph and interfere with interpretation of the image. In most films taken in the pre-purchase examination, the use of grids is not warranted. Grids may also be used to obtain better definition of specific areas (eg. the navicular bone). Grids not accurately aligned with the screen surface and beam projection result in ‘grid fog’ which dramatically decreases film quality. If proper alignment cannot be obtained it is preferable not to use grids.
**Patient preparation**

Sedation may be beneficial in some cases in order to reduce movement during exposure. The coat should be brushed to remove any dirt which may interfere with the interpretation of the radiograph. When taking views of the foot, the skin and hoof wall should be clean. The presence of any foreign material, most commonly dirt, can create radiographic artefacts that can interfere with interpretation. Iodine based washes should be completely cleaned from the skin prior to radiography. Where possible the shoes should be removed (see notes below for foot radiographs).

**Technique**

Positioning of the film and the x-ray beam is critical for good quality radiography. Proper evaluation of most joints requires the x-ray beam to be horizontal to the joint. To avoid distortion the x-ray beam should be perpendicular to the cassette. Exceptions to this rule occur in specified situations. The beam should be collimated as much as possible.

**Dark room technique**

Clean, fresh solutions are necessary to obtain high quality films. The developer and fixer must be kept clean, replenished and replaced regularly. To maintain fixer concentration, films need to be rinsed well between the developer and the fixer. To prevent excess build up and eventual yellowing of the film it is important to remove excess fixer from the film in the final rinse. Processing time and temperature are linked and should be monitored and kept constant.

The use of a well maintained automatic processor will usually provide high quality, consistent developing and fixing of radiographs.

**Film identification**

Film identification should be easily legible. It is preferable that this is performed at the time of exposure rather than at the time of developing. In each case identification should be on the film emulsion rather than placed on the film after developing. Each film should carry the following identification:

- patient identification - name, breeding and/or number
- the limb radiographed - distal limb views should distinguish forelimbs from hindlimbs
- appropriate markers to indicate which view has been taken. The general accepted policy on the placement of labels, is that labels should be placed lateral to the limb, unless there is no lateral aspect to the view, in which case the label should be placed cranial or dorsal to the limb
- date of the examination
- the name of your clinic or hospital

Care should be taken to ensure that the label is within the collimated beam but not overlapping the radiographic image.

**Radiation Safety**

Veterinarians should be cognisant of increased radiation exposure to handlers and themselves associated with radiography, especially when multiple examinations and multiple views are undertaken. Members are urged to comply with State Health Department, Environmental Protection Authority, Occupational Health and Safety or state Radiation Control Acts - Regulations, or the equivalent, to minimise unnecessary radiation. In general steps to minimise exposure include:

- Limiting number of exposures
- Ensure all personnel wear radiation monitoring badges
- Rotate and limit exposure to personnel holding cassettes
- Use appropriate collimation
- Ensure use of and integrity of lead gowns and gloves
- Use of plate holders where possible
- Identify and avoid high risk individuals - such as children, young adults and pregnant individuals

**Reporting**

**Radiographic report**

When providing a radiographic report the veterinarian should clearly determine who is their client before undertaking to evaluate a set of films and report findings. Strict adherence to the ethics of client confidentiality are paramount.

The written radiographic report is an integral part of the pre-purchase examination. It should include identification of the study, the number of films evaluated and a brief description of the findings. Any limitations to the study - for example shoes not removed, limited views requested - should be noted in the report. It should be dated and signed. Should the study be performed by a practitioner not familiar with equine radiography it is strongly recommended that a second opinion from an experienced equine clinician be obtained.

A written radiographic report should include:

- Specific information on who the report has been prepared for
- How the radiographs are identified
- The number and views studied
- The area studied
- The limitations of the study (ie less than recommended number of views, non-diagnostic images or projection, exposure, movement, artefacts, superimpositions, shoes, labels etc)
The radiographic findings and not a clinical interpretation of any abnormalities (an interpretive report may be included as a separate report)

Once prepared, a written radiograph report may be a suitable alternative to the actual radiographs as part of the medical records. Reports should be labelled as being prepared for a specific client, with a direction that they should not be relied on by any third party. Reports that are not so labelled, or are headed “To whom it may concern” must not be prepared.

Interpretation

When interpreting radiographs it is important to take into account the age of the horse, the sex, breed, the type of work the horse has been performing, and any possible complicating factors. It is also important to report the radiographic lesion identified, rather than a clinical interpretation of a lesion. A clinical interpretation is best made in conjunction with the clinical examination of the horse. It is important that the purchaser is aware the radiographic evaluation is only one part of the pre-purchase examination and very often definitive conclusions cannot be obtained from this examination. Most older horses will have some degree of radiographic change, so the presence of radiographic abnormalities does not automatically mean a horse will not be suitable for the use for which it is being purchased.

In young horses, care should be taken in assessing radiographic variations from normal in locations that are not commonly recognised as causing problems in racing horses.

Members are urged to show great caution providing opinion on poor quality radiographs and incomplete radiographic series. Familiarity with published information documenting variations of ‘normal’ radiographic appearance is recommended. Interpretation of radiographic findings should be supported by scientifically published information where available in conjunction with individual clinical experience.

Ownership of radiographs taken as an additional procedure during the pre-purchase examination

The person requesting the radiographic evaluation is entitled to ownership of any information that may be derived from those radiographs. The person requesting the radiographs is therefore entitled to a written report. The release of information to third parties, including the vendor, should only occur with the permission of the party requesting the pre-purchase examination.

The actual radiographs remain the property of the veterinarian and become a part of the patient record. They may be loaned or copied as requested by the party requesting the pre-purchase examination. The radiographs should be kept as part of the medical records by the veterinarian for a mandatory period of at least 2 years (the length of time may vary from State to State depending on the relevant legislation).

If radiographs are loaned a record should be kept identifying to whom and when the radiographs were loaned.

Commissioned Survey Radiographs

When survey radiographs are requested of either adult horses or yearlings prior to auction sale the veterinarian’s records should note that such radiographs have been taken, clearly identifying the horse, and that the radiographs are in the possession of the client.

Recommended Radiographic Views in the Pre-Purchase Examination

Adult Horses

The following standard views are recommended if a client requests a general radiographic survey of an adult horse as an additional procedure within the PPE. The client should be advised that 46 radiographs would routinely be taken to fulfil this request and which areas are routinely radiographed. If the client requests that fewer than this standard number be taken, they should be advised of the limitations of the study. The recommended views for each area are listed from the most useful first, so the last views on the list for each joint are the ones to exclude if less than the full compliment of radiographs is taken.

<table>
<thead>
<tr>
<th>Area to be examined</th>
<th>Recommended number of views</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Front legs</td>
<td></td>
</tr>
<tr>
<td>a) Carpus</td>
<td>5</td>
</tr>
<tr>
<td>b) Front fetlock (including pastern)</td>
<td>5</td>
</tr>
<tr>
<td>c) Feet</td>
<td>4</td>
</tr>
<tr>
<td>2. Hind legs</td>
<td></td>
</tr>
<tr>
<td>a) Hocks</td>
<td>4</td>
</tr>
<tr>
<td>b) Hind fetlock (including pastern)</td>
<td>5</td>
</tr>
<tr>
<td>Left and right sides</td>
<td>23 each side</td>
</tr>
<tr>
<td>Total radiographic views per horse</td>
<td>46 total</td>
</tr>
</tbody>
</table>

Other areas are not routinely radiographed primarily because of technical limitations and the lower incidence of problems at these locations compared to the recommended sites. If the client requests that additional sites be radiographed eg elbows, stifles, hind feet and neck, the recommend views are listed below. It is important to realise that such additional sites are not routinely recommended as part of the radiographic examination for pre-purchase.

Table 1: Recommended Radiographic Views in the Pre-purchase Examination of Adult horses
<table>
<thead>
<tr>
<th>Radiographic View</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feet</td>
<td></td>
</tr>
<tr>
<td>Lateromedial</td>
<td>Foot on flat block &amp; weight bearing: x-ray beam parallel to block &amp; centred 1cm below coronary band.</td>
</tr>
<tr>
<td>Dorsal 50-60° proximal palmarodistal/plantarodistal oblique (exposed for the navicular bone)</td>
<td>For ‘upright pedal’ view: x-ray beam centred on coronary band: solar surface is in parallel contact with vertically placed cassette. Solar margins should be clearly evident.</td>
</tr>
<tr>
<td>Dorsal 50-60° proximal palmarodistal/plantarodistal oblique (exposed for the navicular bone)</td>
<td>For “upright pedal view”, dorsal surface of P3 is approximately 85° to ground surface (use 'navicular block'). Collimate substantially to centre on the navicular bone, with centre 1-2cm above coronary band. Recommend use of grid (6:1 ratio)</td>
</tr>
<tr>
<td>Flexor (Skyline) view</td>
<td>Horse stands with foot positioned as caudal as possible on cassette tunnel and the x-ray machine is placed ventral to the thorax of the horse. The beam is centred below the bulbs of the heel and angled so as to miss the caudal aspect of the fetlock.</td>
</tr>
<tr>
<td>Front and Hind Fetlock</td>
<td>Lateromedial</td>
</tr>
<tr>
<td>X-ray beam should be parallel to the line of the heels. All views of the fetlocks should include the pastern joint.</td>
<td></td>
</tr>
<tr>
<td>Dorsal 45° lateral-palmaromedial/plantarolateral oblique</td>
<td>Slightly elevated for hind fetlock</td>
</tr>
<tr>
<td>Dorsal 45° medial palmarolateral/plantarodistal oblique</td>
<td>Slightly elevated for hind fetlock</td>
</tr>
<tr>
<td>Flexed Lateral</td>
<td></td>
</tr>
<tr>
<td>Carpus</td>
<td>Flexed lateromedial</td>
</tr>
<tr>
<td>Dorsal 45-55° lateral-palmaromedial oblique</td>
<td></td>
</tr>
<tr>
<td>Dorsal 25-35° medial-palmarolateral oblique</td>
<td></td>
</tr>
<tr>
<td>Dorso-proximal-dorsodistal oblique view of the distal row of carpal bones</td>
<td>Skyline of the distal row of carpal bones</td>
</tr>
<tr>
<td>Tarsus</td>
<td>Lateromedial</td>
</tr>
<tr>
<td>Centre X-ray beam on distal intertarsal joint, angled slightly distal or centred on the talus</td>
<td></td>
</tr>
<tr>
<td>Dorsoplantar (Dorsal 10° proximal-plantarodistal oblique)</td>
<td></td>
</tr>
<tr>
<td>Dorsal 65° lateral-plantaromedial oblique</td>
<td></td>
</tr>
</tbody>
</table>

**Pre-Sale Survey Radiographic Examinaton of Thoroughbred Yearlings**

This guide is designed to provide a protocol for veterinarians taking pre-sale survey radiographic examinations of Thoroughbred yearlings for submission to a sales company repository. Acceptance of a submission of radiographs by a vendor for a repository is at the discretion of the sales company; the following is considered by the AEVA to be the minimum requirements that should be acceptable.

**Identification & Labelling**

Appropriate medical records for each horse undergoing radiographic examination should be kept. Veterinarians should diligently identify the horse being radiographed by dam, year of birth, sex, brands and lot number if known. Careful and consistent attention to labelling all films is essential. Labelling should be easily legible and not overlap the limb on the radiographic image.

All films should be labelled with:
- Veterinarian or Practice performing radiographs
- Horse identification - Dam and year of birth, Sex, Brands and Lot number (if known)
- Date radiograph’s taken
- Limb radiographed (and view if there is provision)
- Radiographic markers must be always placed on the lateral aspect of the limb unless there is no lateral aspect on the view, in which case...
they are to be placed dorsally/cranially.

**Radiographic Views Required**

Prior to radiographing, all limbs including hooves should be cleaned of any excess dirt that may produce a radiographic artefact. Each radiograph should be examined for correct positioning, exposure, and labelling. A strong commitment should be made to re-radiographing any views that are sub-optimal, and ensuring repeat films are diagnostic. A commitment to quality diagnostic films is essential.

The minimum number of diagnostic films required is 34. The radiographs submitted to a repository must honestly represent the horse, by providing the required number of quality diagnostic films and taking additional views if clinically indicated.

**Recommended radiographic views**

The radiographic changes likely to be observed in young horses will differ from those seen in adult horses. For this reason the recommended radiographic views differ slightly from the adult horse. It must be emphasized that these views will not detect all radiographic abnormalities present in the limbs of yearlings. The recommended views are considered the minimum number that can be taken to detect the majority of commonly occurring radiographic lesions, while also taking into consideration the important issues of radiation safety, patient compliance and economics. The AEVA recommends that the following radiographic views are suitable for pre-sale evaluation of young horses.

<table>
<thead>
<tr>
<th>Area</th>
<th>No. of Films</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Feet</td>
<td>2</td>
<td>Lateral to medial</td>
</tr>
<tr>
<td>Knees</td>
<td>6</td>
<td>Medial oblique (D60°-70° MPLO)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lateral oblique (D50°-60° LPMO)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexed lateral to medial</td>
</tr>
<tr>
<td>Front Fetlocks</td>
<td>8</td>
<td>DP (AP) elevated D20° Pr-Pdi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medial oblique (D45-55° MPLO) (sl elevated D5°-10° Pr-Pdi)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lateral oblique (D45-55° LPMO) (sl elevated D5°-10° Pr-Pdi)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexed lateral to medial</td>
</tr>
<tr>
<td>Hind Fetlocks</td>
<td>8</td>
<td>DP (AP) elevated D30° Pr-Pdi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medial oblique (D45-55° MPLO) (sl elevated D15° Pr-Pdi)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lateral oblique (D45-55° LPMO) (sl elevated D15° Pr-Pdi)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standing - lateral to medial</td>
</tr>
</tbody>
</table>

**Fetlock views should include the pastern joint and oblique views be elevated should separate the base of the sesamoid and PI interface**

- Hocks
  - 6
    - Medial oblique (D55-65° MPLO)
    - Slightly lateral AP (D10-20° LPMO)
    - Lateral to medial

- Stifles
  - 4
    - Lateral to medial - standing
    - Caudocranial (PA) - preferable or caudolateral oblique (Ca20° LCrMO)

**Total views 34**

**Radiation safety issues**

Veterinarians should be cognisant of increased radiation exposure to handlers and themselves associated with survey radiography.

All members are urged to comply with Occupational Health and Safety and state Radiation Control Act - Regulations or the equivalent to minimise unnecessary radiation exposure including:

- Limiting number of exposures
- Ensure all personnel wear radiation monitoring badges
- Rotate and limit exposure to personnel holding cassettes
- Use appropriate collimation
- Ensure use of and integrity of lead gowns and gloves
- Use of manufactured plateholders where possible
- Identify and avoid using high risk individuals - (young adults and pregnant individuals) to assist with radiography

**Radiographic interpretation**

Determination of who is the veterinarian’s client is essential before undertaking to evaluate a set of films and report findings. Strict adherence to ethics of client confidentiality are paramount.

It is likely that persons viewing films in the repository will be required to sign a confidentiality agreement.

The vendor may have the right to limit access of persons to his/her radiographs placed in the repository. The limitations imposed by the vendor are likely to be subject to approval by the Sales Company, ie. the vendor may request that only registered veterinarians are given access to their...
radiographs.

If veterinarians seek a second or specialist opinion on a set of radiographs they should ensure this is done with the consent of both vendor (through the repository supervisor) and the veterinarians client.

When reviewing radiographs veterinarians should evaluate films in a careful and methodical manner. Veterinarians should maintain a written record detailing their client, the horse’s identity and their radiographic findings for each set of survey film examined.

Members are urged to show great caution providing opinion on poor quality radiographs and incomplete radiographic series.

Familiarity with published information documenting variations of ‘normal’ radiographic appearance is recommended.

Veterinarians need provide a written report of their radiographic interpretation only if specifically requested to do so.

Interpretation of radiographic findings should be based on scientifically published information in conjunction with individual clinical experience.

It is an advantage if this interpretation can be accompanied by an examination of the horse.

It is important to advise the client that the majority of yearlings will have some radiographic variations from normal, however most of these changes will not prevent the horse from racing.

Possible Radiographic Findings in Yearling Thoroughbreds
(this list is a guide only and not intended to be complete).

**Forelimb and Hindlimb Fetlocks**

- Dorsal P1 osteochondral fragments
- Palmar P1 osteochondral fragments
- Mc3/Mt3/P1 subchondral cysts
- Distal dorsal Mc3/Mt3 (proximal 1/3 sagittal ridge) OCD
- Distal sagittal ridge flattening
- Lucency distal sagittal ridge
- Palmar Mc3/ Mt3 flattening
- Palmar supracondylar lysis
- Elongated sesamoid bones
- Abnormal shaped sesamoids
- Sesamoid fractures
- Sesamoid enthesiophytes (proximal & distal)
- Sesamoid circular lucencies
- Sesamoid irregular vascular channels

**Carpi**

- Dorsal medial mid-carpal joint disease
- Palmar ulnar carpal bone lucencies
- Osteochondral fragmentation
- Osteophytes
- Subchondral cysts
- Accessory carpal bone fractures

**Hocks**

- Medial malleolar lucency
- Distal intermediate ridge OCD/concavity
- Medial trochlear ridge flattening
- Medial trochlear ridge lucencies/fragments
- Medial trochlear ridge ‘dew drop’
- TMT/DIT joint osteophytes/enthesiophytes
- TMT/DIT joint subchondral lucencies
- Tarsal cuboidal bone collapse

**Stifles**
Lateral trochlear ridge flattening
Lateral trochlear ridge lucency or fragmentation
Medial trochlear ridge lucency
Medial (rarely lateral) femoral condylar subchondral cysts

Feet
Pedal osteitis -
Other changes - prominent navicular synovial fossa, palmar process fragments, P3 osteophytes and extensor process osteochondral fragmentation

Radiography of Specific Sites Foot
(Front and Hind)
Common radiographic conditions:
Pedal osteitis - new bone dorsal P3, remodelling at toe of P3 (ski jump appearance)
Solar margin fractures
Coffin joint degenerative joint disease
Navicular changes
Palmar process (wing) fractures / secondary ossification centres of the pedal bone
Pedal bone rotation/laminitis
Fractured sidebone, excessive sidebone
Fractures extensor process P3
Keratoma
Previous pedal bone fractures
Bone cysts
Navicular bone fractures
Increased dorsal hoof wall thickness

Radiographic findings that may or may not be significant:
Calcification lateral cartilages (mild sidebone)
Secondary ossification centres wing of pedal bone
Variation in shape of extensor process P3
Synovial fossae in navicular bone
Spurs on edges of navicular bone (at insertion of navicular suspensory ligament)
Fragments from edge of navicular bone
Slight variation in wall and sole thickness
Smooth depression sagittal ridge of navicular bone
New bone formation on the margins of the navicular bone

Notes on the feet

Technique
The comments in this section are mainly applicable to the front feet, however if a specific request is made or there is clinical indication to radiograph the hind feet then these comments are applicable. The feet must be cleaned and where possible the sulci, including both the central sulcus and the sulcus between the bulbs of the heel, packed with a tissue or fat-dense material (eg: Play-doh®). The shoes should be removed when possible. It is recognised that it is not always possible to have the shoes removed, particularly in horses that are in full competition. The limitations of foot radiographs with the shoes in place should be advised to the purchaser. In particular, the inability to see the wings of the pedal bone on an upright pedal view should be noted.

Small wing fractures and solar margin fractures may potentially be obscured by shoes. Interpretation of lateral and navicular views are generally not affected by the presence of shoes. Any artefacts created by the sulcus of the frog, may cause confusion in interpretation and should be noted. A metal marker strip may be placed on the dorsal aspect of the hoof wall, ending at the coronary band, when taking a lateral view of the foot. This can assist in more accurately identifying the dorsal hoof wall so that any increase in dorsal hoof wall thickness and rotation can be determined.

Some Normal Variations and Incidental Findings
The marrow cavity of P2 (when present) can sometimes be superimposed over the navicular bone, giving the erroneous impression of lucency within the navicular bone. The row of nutrient foramina in the proximal aspect of P2 can also sometimes be superimposed on the navicular bone.

Changes of Variable Clinical Significance
The normal radiographic appearance of the extensor process of P3 is highly variable making interpretation of its clinical significance difficult. The
shape can vary from rounded to quite sharp, to having a large notch or possibly a separate fragment present. In addition to the findings from the lameness examination, assessing the entire joint for degenerative changes will help determine the likely significance of the extensor process. The presence of a small bony fragment at the proximal aspect of the extensor process is a relatively common finding and will frequently been seen bilaterally. The majority of these fragments are intra-articular. The presence of these radio-opaque fragments are often not associated with clinical signs of lameness. Despite this there is potential for these osseous bodies to cause clinical lameness associated with the coffin joint. For this reason, it is important to notify the purchaser of the current and potential significance of such a finding. While this fragment may not concern the horse currently, they can have the potential to affect any future sale of the horse.

Ossification of the hoof cartilages (sidebone) is frequently observed, particularly in older horses. Some degree of calcification/ossification is regarded as a normal aging variation of normal. Any ossification should be noted. Unilateral ossification and severe biaxial ossification in one leg, or obvious changes in a young horse, may be a cause for concern. Severe sidebone does have the potential to cause chronic lameness. Ossification may start as separate centre and should not be confused with a fracture of a previously ossified sidebone.

Care should also be taken when making a diagnosis of a fracture of the palmar/plantar processes of P3. Palmar/plantar fragments may be observed unilaterally or bilaterally and may represent a separate centre of ossification or more likely, fractures sustained very early in life. These fragments, while not generally associated with lameness, may at times have some clinical significance.

The Navicular Bone and Navicular Disease
No area of the horse has created greater controversy than the navicular bone. For this reason additional specific comments have been included here involving interpretation of radiographs of the navicular bone and some aspects of navicular disease.

**Definition:** Navicular disease is a degenerative condition involving the navicular bone, navicular bursa and deep digital flexor tendon. Both feet are usually affected, usually the front feet and rarely the hind feet. All breeds and all types of horses can be affected.

**Diagnosis:** A diagnosis of navicular disease is based on history, clinical signs and response to diagnostic anaesthesia. It may be confirmed by radiography.

Radiographic examination of the navicular bone should include a minimum of 3 views being an upright pedal view, latero-medial view and flexor view. Great care should be taken in the preparation of the feet prior to taking radiographs and high quality radiographs, as previously outlined, are essential to accurately detail the navicular bone.

Great care should be taken when assessing radiographs of the navicular bone. There is considerable variation in normal radiographic appearance as well as a poor correlation between the radiographic appearance of the navicular bone and the clinical signs displayed by the horse. For this reason, accurate interpretation of navicular changes is difficult and caution is required in predicting future lameness.

Currently, the most significant radiographic changes correlated with navicular disease are erosion on the flexor surface of the navicular bone, medullary sclerosis and loss of a well demarcated corticomedullary junction.

**Pastern and Fetlock**

### Common radiographic conditions

**Pastern:** Degenerative Joint Disease  
Peri-articular new bone proliferation  
Chip fractures dorsal and palmar/plantar  
Cysts and cyst-like lesions  
Osteochondrosis (OCD)

**Fetlock:** Degenerative joint disease(DJD)  
Chronic capsulitis/synovitis  
Dorsal P1 fractures  
Palmar and plantar P1 fractures  
Chronic proliferative synovitis  
Sesamoid fractures  
Sesamoiditis  
Osteochondrosis of Mc3/Mt3 sagittal ridge and condyles  
Cyst-like lesions

**Radiographic findings that may or may not be significant:**

**Pastern:** Irregular new bone at the mid palmar/plantar cortex at the site of attachment distal sesamoidean ligaments  
Bony ridge on dorsal aspect of P2 visualised on lateral view.  
Small dorsoproximal P2 osteophytes  
Distal orientated enthesiophyte (spur) on proximal palmar aspect of P2

**Fetlock:** “Vascular channels” in sesamoids  
Palmar/Plantar P1 fragments
Notes on the fetlock and pastern

**Technique**

Unless specific views are taken of the pastern, as indicated by clinical findings, the pastern joint should be visualised in all radiographs taken of the fetlock joint. The DP view should be taken with the beam angled down approximately 300 from the horizontal and centred on the joint space which has the effect of elevating the sesamoids and thereby providing a clear view of the subchondral bone and articular surface of the joint. In order to obtain a true standing lateral view it is useful to align the beam parallel to the bulbs of the heel. A true flexed lateral is best obtained by holding the foot at the toe aligned directly below the elbow. Slightly reduced mAs will improve visualisation of the sagittal ridge.

**Some Normal Variations and Incidental Findings**

Radiographic opacity created by superimposition of ergot may appear mistakenly as an osseous body in under exposed radiographs. The nutrient foramina of P2 may vary in location and often appear as a slightly oblique radiolucent line in the middle of the bone on the dorsopalmar/plantar projection. Similarly, the nutrient foramina of P1 may be seen either in the dorsoproximal or palmarodistal cortex on the lateromedial view. On the lateral view, a consistent bony ridge on the dorsodistal cortex of P2 is visualised at the site of the attachment of the distal interphalangeal collateral ligaments.

**Changes of Variable Significance**

Irregular bone formation in the area of attachment distal oblique sesamoidean ligaments at the junction of the mid to distal third palmar P1 cortex is commonly observed and generally not associated with lameness. More often it is an indication there has been some previous trauma. However, ligamentous inflammation may result in lameness if new bone formation is active. The bony ridge on the dorsal aspect of P2 in the mid to distal portion of the bone, can be made to seem more prominent if a slightly oblique view is obtained, rather than a true lateral.

If enlarged on a true lateral view they may be indicative of degenerative joint disease or previous joint injury. The presence of periarticular osteophytes on the proximodorsal aspect of P2, is a frequent finding during pre-purchase radiography, particularly in older horses and must be documented. These spurs associated with the low motion pastern joint are often of minimal clinical significance. Despite this, the long term implications are unpredictable as they occasionally represent active early signs of degenerative joint disease.

**Fetlock Degenerative Joint Disease**

Radiographic changes associated with degenerative joint disease, chronic synovitis and chronic proliferative synovitis are often subtle. Degenerative joint disease/chronic capsulitis. Osteophyte formation on any peri-articular dorsoproximal margins of P1

Enthesiophyte formation at the proximal or distal extremities of the proximal sesamoid bones

Palmar Mc3 elliptical cortical erosion just proximal to the palmar condyle (supracondylar lysis).

Chronic proliferative synovitis

Shallow erosion of the dorsal Mc3 cortex just proximal to the sagittal ridge, occasionally with associated calcification of th proliferative synovial tissue

**Carpus**

**Common radiographic conditions**

Degenerative joint disease(DJD)

Osteochondral ‘chip’ fractures

Accessory carpal bone fractures

Bone cysts

Proximal palmar stress reaction/fracture

Osteochondroma.

**Radiographic findings that may or may not be significant:**

Spurs proximal intermediate and radial carpal bones

Spurs carpometacarpal joint

Radiolucenties adjacent to dorsal aspect of the joint

Sclerosis of the third carpal bone on skyline view

New bone formation on dorsal aspect radial carpal bone

**Notes on the carpus**

**Technique**

The x-ray beam should be centred on the midcarpal joint, with the horse standing squarely on the limb. The beam should be positioned so as to enable clear identification of the joint spaces. For the flexed lateral view there should be sufficient flexion of the limb to separate the radial and intermediate carpal bones. The distal carpal row skyline view is of greatest benefit in racing horses. This view is less important in pleasure and sport horses.

**Some Normal Variations and Incidental Findings**

New bone formation caudal aspect distal radius, just proximal to the physis (seen on the lateromedial view) is usually an incidental finding. Rarely, excessive new bone formation may cause clinical signs. Radiolucent line at the distal lateral aspect of the radius which represents incomplete fusion between the styloid process and the radius.
The distal end of the ulna may continue to the distal radial tuberosity or be evident more proximally to varying degrees as a partially ossified structure. Circular lucency distal radius which represents the caudal depression between the medial and lateral styloid processes. First carpal bone is seen in approximately 30% of horses. It may or may not articulate the 2nd carpal bone and may have an irregular consistency. Adjacent bones may show varying degrees of lucency.

Fifth carpal bone is seen occasionally, rarely it may be seen as a circumscribed ossification proximal to the distal carpal row.

Circular or irregular shaped cyst-like lesions within the ulnar carpal bone, which may have a communication with the articular surface.

Radiolucencies adjacent to dorsal aspect of the joint are fat pads within the joint capsule.

Changes of Variable Significance
Spurs / periarticular osteophytes, on the proximal dorsal margin of the intermediate and radial carpal bones and in the carpometacarpal joint are common radiographic findings, particularly in TB horses. If only small they are usually not a cause of lameness nor do they predispose to long term DJD. New bone formation on the dorsal aspect of the radial carpal bone, in the area of attachment of the joint capsule, is usually indicative of previous capsulitis and/or desmitis of dorsal extraarticular carpal ligaments. If the new bone has smooth margins and articular per-articular degenerative bone changes are absent, the finding may have minimal clinical significance.

Despite this, dorsal new bone changes are also commonly seen with chronic degenerative joint disease and associated clinical lameness.

Hock
Common radiographic conditions:
Degenerative joint disease of distal intertarsal tarsometatarsal joints
Osteochondrosis - distal intermediate ridge & medial malleolus, of tibia and distal lateral trochlear ridge of talus
Tarsal bone malformation/collapse
Malleolus fractures
Periosteal new bone medial and lateral at insertion of collateral ligaments of the hock joint
Osseus cyst like lesions
Fractures

Radiographic findings that may or may not be significant:
Variation in shape of the distal end medial trochlear ridge and fragmentation
Spurs proximal dorsal aspect cannon (Note: enthesiophyte formation on proximo-dorsal MT III may, in isolation, be seen in normal horses)

Notes on the hock
Technique
The hock is a complex structure comprising four joints, the tibiotarsal, proximal and distal intertarsal and tarsometatarsal joints. Good radiographic technique is required to obtain quality radiographs of the hock. The horse should stand squarely and be fully weight bearing, with the beam centred on the central tarsal bone. Radiographs obtained should clearly highlight the joint spaces. Because the distal joints slope distal from lateral to medial it is helpful to better define the joint spaces by angling the x-ray beam approximately 10° proximal to distal on the lateromedial view. A true lateral view is obtained by aligning the x-ray beam with the heel of the foot. There should also be sufficient exposure that the distal intermediate ridge of the tibia is visible on the oblique views. On the dorsoplantar view angling the x-ray beam slightly proximodistal will improve visualisation of the distal intertarsal joint space.

Some Normal Variations and Incidental Findings
An oval mottled opacity plantar to the 4th tarsal bone represents the chestnut.
Synovial fossae are appreciable in the intertroclear groove of talus as a lucency just below the distal intermediate ridge of the tibia on a dorsolateral-plantomedial oblique. Also, occasionally a synovial fossa is appreciable as an area of flattening on the dorsal cranial aspect of the medial trochlea ridge.

There may also be an irregular lucency and apparent defect in the lateral trochlear ridge on oblique views. This is a normal finding. Variation in shape of the distal end of the medial and lateral trochlear ridges.

Changes of Variable Significance
Spurs on the proximodorsal aspect of MT3 are commonly observed. These may be osteophytes or enthesiophytes at the site of attachment of the cranial tibial tendon or the dorsal tarsometatarsal ligament. Spurs with an irregular margin and variable density are suggestive of active formation and may be associated with transient lameness. The presence of a spur at this location without accompanying degenerative joint changes of the distal tarsal joints is typically not associated with clinical lameness.

There is considerable variation in shape of the distal end of the medial trochlear ridge. There may be an irregular outline, large spurs, or even separate bony fragments. An irregular contour is typically not associated with lameness. The distally separated fragments of bone, in this area do not usually cause clinical problems, although they can occasionally result in synovitis and lameness.

Stifle
Views Lateral to medial , flexed lateromedial
Posterior-anterior (preferable) or Caudal 20  Lateral Craniomedial views.

Common abnormalities:
Osteochondrosis of the femoral trochlear ridges
Bone cysts - usually medial femoral condyle
Degenerative Joint Disease
Ligament and meniscal injuries with associated osseous bodies and cyst-like lesions
Calcinosis circumscripta

Radiographic findings that may or may not be significant:
“Fractured” fibula (incomplete ossification- usually insignificant) Notch between medial femoral condyle and medial trochlear ridge, poorly defined lucency also seen at this site, neither are considered significant.

Step between proximal medial trochlear ridge and metaphysis of femur (not significant).
Irregular (fuzzy) appearance of proximal aspect lateral trochlear ridge on a caudolateral oblique view (not significant).
Soft tissue opacity cranial aspect femorotibial joint (not significant)
Flask-shaped lucent area at the proximal lateral aspect of the tibia on cordal-cranial view (not significant)
Incomplete ossification of tibial crest growth plate (not significant)

Notes
The stifle joint is not routinely radiographed in the pre-purchase examination apart from in the case of Thoroughbred yearlings. There are six separate centres of ossification within the stifle joint. This results in several radiographic changes during growth. It is important to recognise that the last of these physes does not close until approximately 3yrs of age. The number of growth centres and the late closure also means that the radiographic appearance of the stifle will vary considerably during the first 3 yrs of life.

Splint and Cannon Bone
Views:
DPa
Medial and lateral obliques

Most common abnormalities:
Fractures
Periosteal new bone growth
Osteomyelitis

Radiographic findings that may or may not be significant:
Several small circular lucencies, which represent nutrient foraminae, may be seen at the most proximal aspect cannon bone on the DPa view (not significant).

Variations in shape and size of the distal portion of the splint bone
Nutrient foramen in proximal third of cannon bone, can vary in appearance on oblique views. May course obliquely in proximal direction in the palmar/plantar cortex (not significant).
Mineralization or ossification of interosseus ligament
Periostitis (including “bucked” shins)
Periostitis/enthesiophyte formation in area of proximal suspensory ligament, including sclerosis and fractures

Notes
Radiographic examination of ‘splints’ and lumps of the splint and cannon bones should be carried out if detected clinically or specifically requested. These areas are best assessed by oblique radiographs centred on the area of greatest swelling. Several different exposures and oblique angles may be required to fully evaluate the splint bone. The significance of any radiographic changes will vary enormously.

Growth plates
In young horses you may be requested to radiograph the growth plates of the distal radius, the distal metatarsus and the distal metacarpus. These are best assessed on a dorsal-palmar view. Some horse may have severe radiographic changes apparent in the growth plates. The significance of such changes is very dependent on the age of the horse. Provided no angular limb deformities occur physitis is not going to be a long term problem.

Radiography of Specific Breeds

Thoroughbreds
Thoroughbreds in race training are predisposed to feet, carpal, fetlock and hock problems. Flexed skyline views of the distal row of carpal bones and flexed lateral views of the fetlocks are necessary.

Standardbreds
It is advisable to include special views of the metatarsophalangeal joints in a pre-purchase examination of this breed - namely a dorso 60° proximo 15° lateral-palmarodistal medial oblique and a dorso 60° proximo15° medial - palmarodistal lateral oblique (elevated oblique views). These views are useful in the racing Standardbred to determine the presence of lesions associated with the proximal aspect of the proximal phalanx. These lesions, which are referred to as proximal P1 palmar or plantar fragments are often a significant lesion in racing Standardbreds.

Quarter horse
In this breed careful evaluation for navicular disease, distal tarsal degenerative joint disease and proximal interphalangeal DJD is important. The client should be advised that in addition to the standard pre-purchase views, a specific radiographic survey of the proximal interphalangeal joints - including lateromedial, dorsopalmar and obliques - may be beneficial.

Equestrian horses
Pre-purchase examinations are often undertaken on an older group of horses as compared to racing breeds. Such horses would include those used for eventing, dressage and showjumping. Athletic and traumatic injuries are commonly seen in eventing horses. As a group sport horses experience a lower incidence of carpal disease. This information should be taken into consideration if a full series of radiographs is not taken of the horse being examined.

**ENDOSCOPY**

AEVA Guidelines for Endoscopy in the Pre-Purchase Examination

**Introduction**

Endoscopy of the upper respiratory tract is often undertaken as a special procedure accompanying the pre-purchase examination. In some instances endoscopy is performed after the sale of the horse (ie yearlings at auction sales) to confirm the upper respiratory tract conforms with the conditions of sale. In either case the veterinarian performing the examination must have good quality equipment, good restraint of the horse and a thorough appreciation of the normal structure and function of the upper respiratory tract as well as being able to recognise the range of abnormalities encountered. Endoscopic equipment used must provide sufficient light, clarity and focus so that individual blood vessels on the epiglottis and pharyngeal walls can be clearly visualised.

**Guidelines For Endoscopy In The Pre-Purchase Examination**

Endoscopic examination of a horse should be performed by a veterinarian who is able to recognise all the conditions listed below. The veterinarian should be familiar with variations of these conditions and their likely significance, in some cases it may be useful to have more than one veterinarian examine the horse.

Equine endoscopy should incorporate disinfection of endoscopes between use. This is most conveniently and satisfactorily achieved by wiping the endoscope with a swab soaked in either a 70% alcohol solution or a 70% v/v alcohol/5% w/v chlorhexidine gluconate solution. The latter solution can be prepared by mixing 1 0 mls of Hibitane 5% Concentrate in 15mls of distilled water and making this solution up to 100 mls by the addition of methylated spirits. Particular care must be taken to ensure the tip of the endoscope is cleaned, even if this requires removal of the protective cover. Biopsy and flushing channels should also undergo disinfection.

The horse should be adequately restrained during the endoscopic examination. It should be noted that use of a lip twitch in some excitable horses may stimulate artefactual dorsal displacement of the soft palate and may result in any adverse effect of the horse precluded full evaluation or if sedation was used during the examination (including type and dose of sedative used). Examination without sedation is recommended, and is rarely required. If sedation is required, a low dose of an alpha 2 adrenergic agonist (eg. xylazine, romifidine, detomidine) is recommended.

The horse should be examined during quiet respiration through the left and right nasal passages. If examined via only one nostril, due to the temperament of the horse, this should be noted on the endoscopic report. The horse should be observed to take several breaths during the examination.

A thorough endoscopic examination will require the horse to be observed during at least three acts of swallowing. Swallowing should be initiated by the use of water flushed through the endoscope. Induction of swallowing by pushing the endoscope against the pharyngeal wall or larynx is discouraged. If tractable, the horse’s larynx should also be examined during nasal occlusion which induces maximal arytenoid cartilage abduction.

The left and right ethmoid regions should examined, as should the nasal passages and surrounding structures during slow withdrawal of the endoscope. Mention should be made on the report as to whether the trachea was examined, and to what distance ie; upper trachea or bifurcation of trachea.

Conditions which may be identified during the endoscopic examination and which would be considered capable of affecting athletic performance would include:

- Laryngeal hemiplegia - grade 4 and 5 laryngeal function (see below)
- Persistent or intermittent dorsal displacement of the soft palate
- Epiglottic entrapment
- Arytenoid chondropathy (chondritis or chondroma)
- Subepiglottic cyst
- Rostral displacement of the palatopharyngeal arch (4th branchial arch defects)
- Ethmoid haematomapharyngeal cyst
- Intra/palatine cyst
- Cleft or hypoplasia of the hard or soft palate
- Space occupying lesions within the upper respiratory tract
- Choanal atresia
- Guttural pouch lesions (confirmation of guttural pouch lesions must be made by direct viewing inside the pouch. Observation of a mucoid, purulent or haemorrhagic discharge at the openings of the guttural pouch is insufficient to diagnose guttural pouch disease.)
- Tracheal collapse, stenosis or space occupying lesions
- Enlargement, distortion of the nasal concha or septum
- Any other abnormalities of recognised clinical significance which in the opinion of the examiner/s will compromise airflow or the athletic ability of the horse.
Grading System for Laryngeal Function

(Lane JG - Proceedings of the 15th Bain-Fallon Memorial Lectures 1993 p178)

Grade 1. Symmetrical and synchronous function of left and right arytenoid cartilages which are capable of achieving and maintaining full abduction.

All movements, both adductory and abductory are synchronised at rest and after exercise. An appearance of asymmetry may arise as an artefact as a result of the position of the endoscope. In such cases when the endoscope is passed up the right and left nostrils in turn the perspective distortion is cancelled. This is considered normal.

Grade 2. Some asynchronous movement of left and right arytenoid cartilages but full abduction occurs and is maintained. All major movements are symmetrical with a full range of abduction and adduction. Transient asynchrony, flutter or delayed or biphasic abduction may be seen, especially by the left arytenoid. This is considered a normal finding, and is particularly common in Thoroughbred horses.

Grade 3. Slight asymmetry at rest, full abduction of the left arytenoid cartilage can be achieved but not maintained. Although the left arytenoid is still capable of full abduction, activity is generally reduced on the left compared with the right with periods of asymmetry, particularly during quiet movements. Full bilateral abduction can also be stimulated transiently by partial asphyxiation using nostril closure but is not sustained.

Caution should be exercised in a horse identified as having grade 3 laryngeal function at rest. These horses may or may not make an abnormal respiratory noise during exercise as airway obstruction during exercise is not consistently correlated with endoscopic findings at rest. Palpation of the muscular process of the arytenoid cartilage may be of assistance in such cases. A definitive assessment of extent of upper airway obstruction requires endoscopic examination during high speed treadmill exercise. This condition may have an effect on performance, varying from slight to severe.

Grade 4. Obvious asymmetry at all times with incomplete abduction of the left arytenoid cartilage, however some movement will occur.

The left arytenoid is no longer capable of full abduction and during adduction compensation by the right arytenoid crossing the midline may be evident. Asymmetry is marked but some residual movements are present. Grade 4 horses will generally make an abnormal inspiratory noise and have a reduction in exercise tolerance.

Grade 5 True hemiplegia.

There is a complete absence of movement left arytenoid cartilage which is located at or very close to the midline. These horses make an abnormal respiratory noise even at slower gaits and have a reduction in exercise tolerance.

The classifications used to describe reduced left arytenoid cartilage function, are applicable to the right arytenoid cartilage, although these are observed less commonly.

It is important to note that the “slap” test is no longer considered a reliable indicator of early arytenoid dysfunction and is therefore not used during routine endoscopic examination. It may be more useful if the horse is suspected of having cervical spinal cord abnormalities.

Endoscopy of Yearlings

Upper airway endoscopy of yearlings presents special challenges to equine veterinarians, with regard to performing a thorough examination and interpreting the significance of findings at rest. There are several well recognised differences in appearance and function between the ‘normal’ immature airway compared with the adult (2 years or greater) upper airway. The immature horse typically has a higher grade of pharyngeal lymphoid hyperplasia. This predisposes to excessive mucus accumulation, which can at times appear to be draining from the guttural pouch openings. In addition the ‘normal’ epiglottis of a yearling can appear smaller and flaccid, compared to the mature horse.

Intermittent or persistent dorsal displacement of the soft palate is commonly observed during endoscopy of the yearling. This may be a function of a higher grade of pharyngeal lymphoid hyperplasia and/or an immature epiglottis, often occurring in an excitable yearling.

Although the smaller flaccid epiglottis seen in most yearlings matures with age, it is difficult to predict those yearlings in which the epiglottis will remain immature. An abnormal epiglottis can affect athletic performance in racing horses.

A further problem is that the time when horses are sold as yearlings is very much a transitional period for the horse to be at risk of developing endoscopic signs of laryngeal hemiplegia. The incidence of laryngeal hemiplegia at yearling sales is quite low (less than 1%), however, the majority of Thoroughbreds (about 4-5%) that are going to develop idiopathic hemiplegia have done so by the time they are 2 yr olds, and almost all by the time they turn three years of age. This means that careful endoscopic examination needs to be carried out in TB yearlings, but careful palpation of the laryngeal muscles may also be useful. This problem only applies to TBs, as the incidence of roaring in other breeds (except Draft horses and Warmbloods) is quite low.

A further problem with the endoscopy of yearlings is the temperament of many of these younger, less well handled horses. Having competent horse handlers and an endoscope of narrow diameter (less than 11mm) will make endoscopy much easier. It is important to observe the function of the larynx and pharynx during normal respiration, if possible, but it is essential to see the horse swallow at some time during the examination. If complete arytenoid cartilage abduction is questionable, arytenoid function should ideally be assessed after induction of swallowing and abduction during nasal occlusion. This can be particularly difficult in yearlings and sedation maybe necessary.

The conditions of sale regarding endoscopy and the conditions which if found may cancel the sale vary with individual sales companies. It is important to be familiar with the particular conditions of sale prior to undertaking the endoscopic examination. Occasionally a post-sale endoscopic examination will reveal a condition considered likely to result in a performance limiting airway obstruction or a condition which requires treatment (respiratory tract infection), which is not stated in the conditions of sale. The examining veterinarian should report this finding to his client, so that, if necessary, appropriate mediation can occur between vendor and purchaser facilitated by the sales company and
the examining veterinarian. A common example of this are small circular mucosal ulcerations of the axial surface of the arytenoid cartilage which may be observed during endoscopic examination of Thoroughbred yearlings. These lesions are often bilateral and located just above the dorsal attachment of the vocal cord. The lesion should be assessed carefully for any underlying cartilage involvement, cartilage thickening or reduced abductor function. Mucosal lesions alone may not constitute grounds for cancellation of the sale. Treatment with broad spectrum antibiotics and anti-inflammatory agents is typically associated with lesion resolution on repeat endoscopy in 10-14 days. However a small percentage of lesions may continue to progress to develop intra-laryngeal arytenoid granulomas or arytenoid chondropathy despite treatment.

In general the most common conditions which may cancel the sale are:
- Laryngeal hemiplegia (grade 4 or 5 laryngeal function)
- Rostral Displacement of the Palatopharyngeal Arch
- Epiglottic entrapment
- Persistant DDSP
- Arytenoid chondropathy (chondritis or chondroma)
- Subepiglottic cyst
- Cleft palate

Endoscopy of Foals and Weanlings

Predicting long term laryngeal function from endoscopic assessment of weanlings and foals is unreliable, unless complete paralysis is observed. Congenital abnormalities may be detected, however, most foals with such changes display obvious clinical signs from an early age. Veterinarians should show great caution in interpreting endoscopic findings in foals and weanlings and should accordingly make clear the limitations of endoscopy in this age group to clients requesting such examination.

It is important for the endoscopic examiner to note and inform his/her client that the absence of an observable abnormality at rest does not preclude the possibility that the horse may exhibit some form of upper airway dysfunction during exercise which may affect athletic performance.

Comments on some Common Conditions of the Upper Respiratory Tract

Idiopathic Laryngeal Hemiplegia

Care should be taken to assess the horse during quiet respiration, following swallowing and during nasal occlusion. Percutaneous palpation of the muscular process of the arytenoid cartilage can be of assistance in determining the severity of atrophy of the laryngeal muscles.

Epiglottic entrapment

Occasionally epiglottic entrapment may be intermittent, and precipitated by swallowing. As such it is possible entrapment may be not observed during the pre-purchase examination. Decreased epiglottic length plays little role in this condition.

Dorsal displacement of the soft palate (DDSP)

Transient intermittent and persistent DDSP may be observed in association with pharyngitis, extended head position, and use of a twitch in excitable or intractable horses. Difficulty replacing the soft palate despite repeated swallows is an indicator of the likely clinical significance. A true indication of soft palate function is more likely in the relaxed horse, with the head in a neutral position, and the twitch loosened or removed. Stimulation of DDSP is performed by nasal occlusion (for approximately 60 seconds or as long as the horse will tolerate it) and passing the endoscope into the trachea and withdrawing it. The presence of a small flaccid appearing epiglottis in the mature horse may pre-dispose that individual to DDSP.

Definitive diagnosis of intermittent dorsal displacement of the soft palate can be difficult, as the soft palate is usually positioned normally at rest. Careful endoscopic examination at rest may reveal inflammation of the free margin of the soft palate or on the dorsal pharyngeal wall, which may be indicators the horse is predisposed to soft palate dislocation during exercise.

Arytenoid Chondritis

The endoscopic appearance of arytenoid chondritis/chondropathy may be highly varied. Findings range from subtle mucosal inflammation and cartilage enlargement with normal or slightly reduced abductor function, to severe cartilage deformity and enlargement causing marked airway narrowing.

Pharyngitis

Although pharyngitis (pharyngeal lymphoid hyperplasia) and tonsillar tissue inflammation are commonly observed during routine endoscopy, there are very few occasions when the presence of either of these conditions, in any degree, will directly affect the long term performance of the horse. The presence of severe lymphoid hyperplasia may predispose to DDSP, which may then affect performance. This is usually only a problem in younger horses. With maturity the severity of hyperplasia usually decreases and the associated problems resolve. In some horses the excess mucus production associated with severe pharyngitis and tonsillar inflammation can sometimes be drawn into the opening of the gullet pouch. This mucus then runs out of the pouch opening, giving the erroneous impression of primary guttural pouch disease. Care should be taken before a diagnosis of gullet pouch infection is made.

Some horses may also develop a persistent pharyngitis and tonsillitis that can be evident for many months or more. Unfortunately, it is not possible to determine from a single endoscopic examination which horse may have a longer term problem. Severe pharyngitis in older horses (greater then 3yrs) is considered unusual.

While grading of pharyngitis is generally not undertaken, the following grading system is suitable if required.
Grade 1: A small number of white inactive follicles scattered over the dorsal pharyngeal wall.

Grade 2: Many small white follicles interspersed with numerous larger pink oedematous follicles extending down the lateral walls of the pharynx.

Grade 3: Many large pink follicles over the dorsal and lateral walls of the pharynx. Pharyngeal tonsil tissue is reddened and enlarged. There may be evidence of mucus accumulation in the tonsilar area and occasionally on the pharyngeal walls.

Grade 4: Severe hyperplasia of lymphoid nodules, being pink and oedematous and packed closer together. The tonsil tissue is often very reddened and protruding from the pharyngeal recess. Large accumulations of lymphoid tissue may appear as polyps. Mucus accumulation is usually seen in the pharyngeal recess, as well as on the pharyngeal walls. The soft palate and occasionally the epiglottis may be affected by lymphoid hyperplasia.

Drug Testing

Drug Screens Urine/ Blood

Consent for drug testing should be inferred from the vendor's general consent to have the horse subjected to a prepurchase examination. The vendor should be aware that sampling and testing might be included in the examination. Blood collection could be considered "invasive", and, as with all examinations, carries a small but finite risk to horse and handlers.

AEVA Protocol for Drug Testing in Pre-Purchase Examinations

Collection Method

The laboratory will require either blood or urine, depending on tests required. NSAID testing is performed on BLOOD.

For Urine

Collect urine and divides in to two clean containers.
Container and collection vessel to be rinsed first in water and a portion retained as control.
All three containers sealed under a tamperproof seal, which is signed by vendor or an independent witness and the collecting veterinarian.
Place in a damage-resistant transport device and submit promptly to laboratory.

For Blood

Collect 6 X 10-ml blood samples in lithium heparin vacutainer tubes.
Seal each tube under a tamperproof seal, which is signed by vendor or an independent witness and the collecting veterinarian.
Place sample in a damage-resistant transport device and submit promptly to laboratory. SPECIFY REQUESTED SCREEN eg Non-Steroidal Antiinflammatory, Sedative, etc

The LABORATORY should:

Process one sample, promptly upon receipt in accordance with current protocols and report results by fax.
Centrifuge remaining blood tubes still under seal and freeze remaining blood, urine and control
Await advice from submitting veterinarian regarding further testing or quantification
Discard all samples after 28 days from date of submission unless in receipt of written advice from person commissioning test. Storage after 28 days chargeable to client via submitting veterinarian.

Availability and limitations of prepurchase drug screens should be discussed with every prepurchase examination.

The availability of drug testing should be advised, as with the availability of any other commonly employed procedure, such as radiography. Likewise, the limitations of the procedure should be discussed - the horse cannot be considered "drug-free" - rather "no drugs detected".

Emphasis is currently placed on anti-inflammatory analgesics and sedatives. There will be no “perfect” screen, and some drugs and treatment regimes will be difficult to detect, although the latter would require a high level of premeditation. Non-steroidal anti-inflammatory drugs, corticosteroids, acepromazine, diazepam and reserpine would be important elements. The screen employed by each laboratory should be continuously variable, but should reflect substances in common usage and be in harmony with screens employed by the racing analysts.

It is possible that certain drugs in common usage, notably phenylbutazone, may yield detectible residues well beyond their therapeutic effect. THE AEVA Prepurchase Subcommittee may, from time to time, and acting on expert advice and current information, determine suitable reporting limits for participating laboratories, for specific substances.

Urine and blood both have advantages and disadvantages, depending on the test.

Urine is the preferred sample for most analytical tests. It is, however, less easily obtained than blood in the context of a prepurchase examination. It also does not accurately reflect blood and tissue levels of many drugs, and hence is of limited value in setting "no effect thresholds".

Blood is reliably obtained in vacutainer-type tubes. Heparin is the preferred anticoagulant. Blood is more useful for quantification, but may fail to detect trace levels of some important substances. Plasma must be promptly separated, as haemolysis interferes with testing.
Samples should be collected, witnessed, sealed and processed in accordance with current AEVA protocol.

A "positive" finding may carry an implication of malice and the integrity of the finding must be beyond challenge.

Samples should be processed by a recognised laboratory

A suitable laboratory will:

- Signal its willingness to participate in AEVA-endorsed prepurchase drug screening in accordance with guidelines listed here and elsewhere.
- Be prepared to offer a short turn-around time - ideally 24-48 hours.
- Provide a suitable screen, consistent with other analytical laboratories.
- Demonstrate a suitable quality assurance system, or relevant current accreditation, and perhaps participate in inter-laboratory QA checks.
- Liaise with the AEVA Executive from time to time with respect to the screen employed, including analytical methods, and limits of detectability.

Results should be reported promptly and in confidence to the person commissioning the test, and not be used for any other purpose.

A positive finding would be, as with other observations, exclusively for the information of the person commissioning the examination, who would be well advised to keep the information private. The finding would have to be reported objectively, together with defensible interpretation of its significance to the horse. Quantification of the result would be desirable.

Testing and results are valid at the date and time of purchase only and samples should not be indefinitely retained.

If an undertaking is made to store samples, it must be religiously executed. This is an onerous undertaking for a veterinary practice, as samples would have to be logged, stored, and discarded at an agreed time. Laboratories might be equipped to store duplicate samples for a stipulated time.

Electrocardiography

ECG examinations are infrequently requested in prepurchase examinations. An ECG may be indicated to characterise an irregularity detected on clinical examination, or to determine "heartscore" in an endurance horse. "Heartscore" measurement is declining in popularity. Readers are referred to other texts for an account of heartscore calculation, which is based on the mean QRS interval of the three limb leads.

The most common arrhythmia in the healthy resting horse is second degree heart block, presenting on auscultation as "dropped beats". The condition is readily confirmed by electrocardiography, with intermittent absence of QRS waves following from a normal P wave. This arrhythmia is thought to be due to excessive resting vagal tone and disappears with mild exercise or excitement. It is of no clinical significance.

Atrial fibrillation may appear clinically as an irregular resting mild tachycardia. ECG reveals normal QRS complexes commencing at irregular intervals, with an oscillating baseline and no identifiable P wave. This condition causes severe exercise intolerance and should be viewed with caution.

Other arrhythmias occur with lesser frequency and require specialist consideration. "Heart strain" (T wave changes) is not considered a cause of poor performance, but is a reflection of the fitness of the horse.

Ultrasoundography

In the context of a prepurchase examination diagnostic ultrasonography may be used to investigate the heart or the soft tissue flexor structures of the lower limb. At this time ultrasonography is not widely used or advised in prepurchase examinations.

Echocardiography may be used to characterise any abnormality encountered on auscultation. Particular emphasis will be paid to valvular structure and function, chamber size and reflux. Most murmurs are asymptomatic, and heart disease is not commonly encountered in prepurchase examinations. Echocardiography should be offered to quantify any abnormality, and rule out the possibility of debilitating heart disease such as endocarditis or valvular insufficiency. Echocardiography is outside the capability of most veterinary practitioners, and where indicated specialist assistance should be sought.

Ultrasound examination of the lower limbs, particularly the front limbs, may be requested, particularly in high intensity athletic individuals.

Structures of greatest significance are the superficial and deep flexor tendons, the check ligament, and the suspensory ligament. The flexor tendons are examined for symmetry in cross-sectional size, and regularity in fibre pattern. The SDF should not exceed 1.2 cm² in crosssectional area. The suspensory ligament should be examined in crosssection as well as longitudinal section, with particular reference to the proximal attachment and the insertion on the proximal sesamoid bones.
CHAPTER 6

Equine Insurance - The Role and Responsibility of the Veterinary Surgeon

There are many types of insurance available for horses, such as Prospective Foal Insurance, Stallion Infertility Insurance, Barrenness Insurance for mares, Loss of Use Insurance, etc. The most common insurance in Australia is Mortality Insurance covering death as a result of accident, sickness or disease. The following guidelines are the result of considerable discussion between veterinary surgeons from most areas of equine pursuits and representatives of the insurance industry.

This chapter provides information for veterinary surgeons in the following areas relating to the insurance of horses:

1. The Responsibility of the Veterinary Surgeon

1.1 All horses being attended by a veterinary surgeon should be considered to be insured unless contrary information is available.

1.2 It is not the responsibility of the attending veterinary surgeon to inform an insurer of a diagnosis or intended treatment, it is the responsibility of the owner, or any other person acting on behalf of the owner, of the insured animal.

1.3 The attending veterinary surgeon should, with the permission of the owner of the insured animal, give as much information to the insurer as the latter requires, and should be prepared, with the owner’s agreement, to respond to directives of the insurer.

1.4 Anaesthesia and elective surgery should not be performed without inquiring if the horse is insured. If the horse is insured the owner of the insured animal should obtain permission from the insurer for the elective procedure to be performed.

1.5 Veterinary Certificates and Forms. Registered veterinary surgeons have a special responsibility under the Veterinary Surgeons Act in regard to the writing of certificates. The veterinary surgeon may be guilty of misconduct in a professional respect if he/she signs a false, misleading or improper document.

Statements must not be made on hearsay or indirect evidence. For example, tattoos and brands must be read.

(i) Each certificate should be written on letterhead notepaper or an AEVA approved form, showing clearly the name of the practice and the name of the certifying veterinary surgeon.

(ii) The certificate should indicate the name and address of the person requesting the certificate. Care should be taken to avoid ascribing incorrect ownership to such a person.

(iii) The date and place of examination must be given.

(iv) The animal must be properly identified.

(v) Lesions or abnormalities should be recorded.

(vi) The certificate must be signed. The qualifications by which the veterinary surgeon is registered should be added.

1.6 Adequate records of the cases must be maintained and copies of certificates and reports should be kept.

1.7 Subrogation. A fundamental principle of insurance is ‘Indemnity’, which is the principle of restoring the Insured to the same financial position he was in immediately prior to an insured loss. Most Livestock Mortality Policies indemnify the Insured for the ‘actual value’ of the insured animal at the time of its death, or at the time of the illness or injury that gave rise to its death, limited to the sum insured.

‘Subrogation’ is a corollary of indemnity. It is the legal right an Insurer has after it has indemnified an Insured, to stand in the position of the Insured and benefit from any right or remedy that the Insured may have against a third party.

The significance of this is that if a horse dies as a result of the negligence of a third party, e.g. the agistor, feed manufacturer, veterinarian, etc., the Insurer, after it has indemnified the Insured’s loss, is legally entitled to all the rights the Insured has to pursue recovery against the negligent third party. Further, if the veterinarian fails to disclose information known to him / her, which if provided would have resulted in the Insurer declining to insure the horse or in imposing a policy exclusion, the veterinarian may have a liability to reimburse any loss sustained by an Insurer who relied on the information in the Certificate when deciding to insure the horse.

2. Mortality Insurance

2.1 The examination of the horse for mortality insurance.

Whilst the owner of the insured animal is paying for the examination and subsequent report, difficulties may be inherent. The Australian Equine Veterinary Association recommend that the insurer should employ the veterinary surgeon. This is particularly important in the area of the expensive horse. This practice would allow confidentiality of the report and reduce the possibility of conflict of interest.

2.2 The Policy

A typical Mortality Insurance Policy states ‘in the event of the death during the Period of Insurance of any Animal specified in the Schedule we will indemnify the Assured in respect of the actual value of such Animal at the time of the Accident’ (or manifestation of the disease or illness) ‘causing its death, up to but not exceeding the Limit of Liability specified the Schedule’ (the sum insured). It is a condition of the policy that the horse ‘is in sound health and free from all illness, disease, lameness, injury and physical disability’ at the commencement of the policy and therefore the cover provided is for death during the policy period as a result of accident, sickness or disease which occurs during the policy period.
The proponent, or owner, (the intending Insured) has a statutory obligation (under the Insurance Contracts Act 1984), as well as a contractual and moral obligation, to disclose to the Insurer at the time of proposing the insurance every matter that he or she knows, or could reasonably be expected to know, is relevant to the Insurer’s decision whether or not to accept the risk of insurance and, if so, on what terms.

Failure to disclose all relevant information may result in the Insurer denying liability for a claim. When it is evident that a horse has a problem, the owner should appoint a veterinarian to produce a report which clearly describes the severity of the condition. If the condition described is of a minor nature, or unlikely to result in the death of the horse, then the insurer may accept that the problem is not significant and provide full insurance cover. The policy provides for death only. It does not provide cover for loss of use or loss of athletic function.

2.3 The certificate of examination for mortality insurance purposes It is a requirement of Mortality Insurance Policies that the insured animal ‘is in sound health and free from all illness, lameness, injury and physical disability’ at the commencement of the policy. Livestock insurers invariably require proof that the animal proposed for insurance is in sound health before they will issue cover. The proponent is therefore often requested to obtain a certificate from a veterinarian certifying that the animal proposed for insurance is clinically normal and free from physical disability.

The AEVA has for many years supplied its members with the Certificate of Examination for Mortality Insurance Purposes, which has been accepted by Insurers as proof of sound health.

The AEVA strongly believes that provision of history is the responsibility of the insured, not the veterinarian. The examining veterinarian is often not in a position to know, or reveal, all relevant items of history. Failure to provide all of the relevant information about a horse’s veterinary treatment history can delay, or even prejudice, an Insured’s claim. Therefore, not disclosing the full veterinary treatment history on the Certificate could be prejudicial to the Insured’s (the veterinarian’s client) claim. Where the client requests, the veterinarian should cooperate in providing such history as is known to him or her. It is important to realise that although the Certificate of Examination is for “Mortality Insurance Purposes”, it is prepared by the veterinarian for the horse owner (the intending Insured) not the Insurer. The Certificate should therefore be given to the owner for submission to the Insurer, unless the owner’s instructions to the contrary have been obtained.

It is suggested that members use the recommended AEVA certificate. The certificate should be completed subject to the following considerations:

(i) The horse must be positively identified using at least any two of the following viz. brands or tattoos, markings, three whorls, scars. If brands or tattoos are visible they must be noted.

(ii) The veterinarian is asked to state whether he or she is the usual attending veterinarian, and if so, how often the animal has been attended. The certificate asks the veterinarian to answer certain specific questions, based on a clinical examination, which are considered important in assessing insurance risk.

(iii) The certificate asks if the animal is clinically normal. A suggested procedure for this examination is laid down in 2.4.

If any part of the procedure cannot be carried out it should be stated on the certificate.

2.4 The Examination

The following should be regarded as an outline of the examination required.

(i) Preliminary Examination - This is best conducted in a stable or yard where the horse has been at rest for at least half an hour. Careful observation should be made of the animal’s general appearance and condition. The horse should be observed for a short period while - unrestrained to ensure that any obvious stable vices are not overlooked due to the owner or attendant catching or holding the horse.

(ii) Examination at Rest - The veterinary surgeon should develop the habit of examining a horse methodically. It is recommended that examination commence at the head and work back over the body down the limbs of the left side, and then follow with a similar examination of the right side. The eye should be examined with the aid of a light. The teeth should be examined and the animal’s age assessed. The resting heart should be auscultated. The horse should be turned right around in the box or stable and each of the feet should be picked up, cleaned out and examined and the limb joints flexed and extended to detect any pain or limitation of movement. External genitalia should be examined. The horse should then be taken outside and thoroughly inspected from all sides.

(iii) Examination at Exercise - The animal should be walked and trotted on hard level ground - if possible by an attendant used to handling horses. The horse should be walked twenty metres away from the veterinary surgeon turned, and walked back. The horse should then be trotted away for thirty or forty metres and trotted back. The horse should be led in such a way that there is no interference with its free action or with the veterinary surgeon’s view. The horse should then be turned one way and then the other and made to back several paces.

2.5 Minimum standards

Where the minimum standards cannot be adhered to, for example due to poor facilities and unbroken livestock, the insurance company should be notified that a complete examination could not be carried out.

2.6 Policy Conditions

It is a condition of the policy that the Insured ‘shall at all times provide proper care and attention for each Animal’ and ‘in the event of any illness, lameness, injury, accident or physical disability whatsoever of or to an Animal, immediately and at his own expense employ a qualified veterinary surgeon, and if required by the Underwriters, allow the removal for treatment.’ Further, it is a condition of the policy that the Insured immediately inform the Underwriters of such ‘illness, lameness, injury, accident or physical disability’.

In the event of death, the Insured is also required to “immediately and at his or her own expense arrange for a post-mortem and autopsy examination to be made by a qualified veterinary surgeon”.

Equine Veterinarians Australia (EVA) Members Handbook 2006
2.7 Treatment and Surgery of the Insured Horse

Most policies will state that the cover ‘does not include death caused directly or indirectly by the administration of any medication (including any drug, hormone, vitamin, protein, or other substance other than unadulterated food and drink) unless by a qualified Veterinary Surgeon (or experienced personnel directed by the veterinarian) and certified by the Veterinary Surgeon to have been of a prophylactic nature or necessitated by Accident, Disease or Illness’. Many policies contain a condition stating that ‘In the event of an animal being operated upon for castration or spaying this Insurance shall cease to cover such animal at midnight, local time, immediately prior to the day of such operation, unless this policy is extended to include the operation for castration or spaying, by a fully qualified Veterinary Surgeon and the appropriate additional premium paid when applicable’. Many livestock policies also specifically exclude death directly or indirectly caused by ‘any surgical operation unless conducted by a qualified Veterinary Surgeon and certified by him/her to have been necessitated solely by accident, disease or illness and to have been carried out in an attempt to preserve the animal’s life’. This clause indicates that horses undergoing elective surgery may not be covered by the policy. It is particularly important in such cases that the owner of the horse advise the insurance company prior to any elective surgery being performed. Conversely, if surgery is required to save the life of the horse it can proceed without awaiting confirmation from the insurance company. Some insurance policies will carry an operations clause, which overridges the above section of the policy to ensure horses undergoing routine elective surgery are covered by the policy.

The wording may be as follows-

“OPERATIONS CLAUSE - Notwithstanding anything contained herein to the contrary it is hereby declared and agreed that this Insurance is extended to cover any Animal being operated on under local or general anaesthetic by a qualified Veterinary Surgeon acting in accordance with accepted Veterinary practice.”

Clearly, Insurers require insured horses to only be treated by qualified veterinarians, or at least by experienced personnel directed by qualified veterinarians. They also require notice of any proposed surgery prior to the surgery being performed.

2.8 Proper care and duty in the event of illness or death.

Standard wording in most policies is as follows:

“The Assured shall: at all times provide proper care and attention for each Animal; in the event of any Illness, Disease, Lameness, Injury, Accident or Physical Disability whatsoever of or to an Animal, immediately at his own expense employ a qualified Veterinary Surgeon, and if required by the Underwriters, allow removal for treatment; in the event of the death of an Animal, immediately at his own expense, arrange for a Post Mortem Examination to be made by a qualified Veterinary Surgeon;

and

In the event of b) or c) immediately give notice by telephone or fax or electronic mail with return confirmation of receipt, to the person or persons specified for the purpose in the Schedule, who will instruct a Veterinary Surgeon on the Underwriters behalf if deemed necessary.” Failure to immediately appoint a veterinarian to treat an insured horse could prejudice the owners insurance. If the failure to appoint a veterinarian is the fault of the stud or agistor then they risk having a claim made against them.

3. Guidelines for Conditions where Euthanasia is Deemed Necessary

3.1 Standard wording in most insurance policies is as follows, to the effect that insurance cover

“does not include intentional slaughter unless Underwriters have expressly agreed to the destruction of the Animal; or an Animal suffers an injury or is afflicted with an excessively painful disease and a qualified Veterinary Surgeon appointed by the Underwriters shall first have given a certificate that the suffering is incurable and so excessive that immediate destruction is imperative for humane reasons; or

an Animal suffers an injury and a qualified Veterinary Surgeon appointed by the Assured shall first have given a certificate that the suffering is incurable and so excessive that immediate destruction is imperative for humane reasons without waiting for the appointment of a Veterinary Surgeon by the Underwriters; and provided that in all cases (a, b, or c) the Underwriters have been given the opportunity of appointing a Veterinary Surgeon to perform a Post Mortem and Autopsy examination.”

Clearly, such policies specifically exclude intentional slaughter (humane destruction), unless the Insurer agrees to the destruction of the animal, or unless the animal is suffering an incurable and excessively painful disease or injury, e.g. a severely fractured leg or uncontrollable pain.

Unless immediate euthanasia is warranted because of an excessively painful disease or injury, written authorisation should be obtained from the owner of the horse, or the owner’s authorised representative, before euthanasia is carried out. It is important for the veterinarian to be aware that neither the Insurer nor the broker have the right to authorise euthanasia as they do not own the horse. In the case of an insured horse, the consent of the Insurer and/or a veterinarian appointed by the Insurer should also be obtained where practicable. Veterinarians would be aware that the ownership of Thoroughbreds is often syndicated and all of the owners may not have their shares insured. Difficulties can therefore arise if all of the owners do not agree to euthanasia.

In the event of euthanasia, the Insured is required to give the Insurer the opportunity of having a detailed post-mortem and autopsy examination carried out by a Veterinarian appointed by the Insurer. In practice, the Insured often arranges for the post mortem and autopsy examination to be carried out and it is preferable for such examinations to be performed by a specialist veterinary pathologist, or if not available, an independent veterinarian.
3.2 Humane Destruction

The AEVA sets out guidelines for euthanasia, or humane destruction. These guidelines appear to be generally consistent with the guidelines published by Equine Veterinary Associations in other countries. They contain the following:

'Euthanasia is advisable if the condition is chronic and/or incurable and it would be inhumane to allow the horse to suffer further makes the horse a hazard to himself and his handlers'

3.3 The guidelines for per acute conditions where euthanasia may be necessary. The peracute conditions include some trauma and colic conditions. When, after considering all the circumstances the veterinary surgeon is of the opinion that the prognosis for the survival of the horse is hopeless, and it is not possible to provide effective pain relief whilst further advice is obtained, immediate euthanasia is justified on humane grounds.

Notification of the insurance company should be the first priority of the owner or his representative after euthanasia of the horse. The veterinary surgeon should remind that person of their obligation in this regard.

At the request of the owner of the insured animal an autopsy should be carried out as soon as possible to establish the nature and extent of injury or disease.

The Insured is required to give the Insurer the opportunity of having a detailed post-mortem and autopsy examination carried out by a Veterinarian appointed by the Insurer.

For all other cases where euthanasia may be necessary the owner or his representative should be advised to contact his insurer immediately.

3.4 In cases where immediate euthanasia is not necessary. The animal should not be killed without further consultation. It may be possible to contact a veterinary surgeon experienced in equine practice for a second opinion regarding the condition. Contact by telephone is encouraged. As a matter of principle the AEVA holds that where second opinions are requested by the insurer and entail a second fee, the INSURER is required to pay for this second opinion. The veterinary surgeon must provide immediate supportive care. Where emergency surgery is considered necessary and contact with the insurer or another veterinary surgeon is not possible then surgery should proceed.

The veterinary surgeon, with the permission of the owner of the insured animal, is encouraged to make contact with the insurance company. It is emphasised that while the veterinary surgeon should co-operate with the insurer, it is also the duty of the insurer to maintain contact and seek interim reports.

If the animal is not responding to treatment referral should always be considered. If the condition deteriorates the insurance company should be advised.

Euthanasia is advisable if the condition is chronic and/or incurable and it would be inhumane to allow the horse to suffer further makes the horse a hazard to himself and his handlers. In all of these cases euthanasia should not be carried out without the approval of the insurer unless the condition becomes per acute. The Insurer may require another veterinary surgeon to perform the autopsy. (Note: this may well be at the owner’s expense.)

Adequate autopsy procedures should be carried out to establish or confirm the diagnosis.

Ancillary aids to certifying the animal, and the condition, such as the use of video and photographic equipment is encouraged.

3.5 Guidelines for post mortem examination

The veterinary surgeon should understand it is usually a condition of an insurance policy that the owner must request and pay for a post mortem examination for a mortality claim. If the veterinary surgeon or a member of a group practice is called to carry out an autopsy on a horse recently examined for mortality insurance by that veterinarian or practice, they may wish to decline. The owner or agent should then seek the services of an independent veterinary surgeon. This may be impractical in rural or isolated areas of Australia.

The veterinary surgeon should keep a permanent record of every post mortem examination and the findings. Accurate identification is required. Sufficient post mortem examination should be carried out to clearly ascertain the cause of death or disease. Where this is not obvious a full and detailed post mortem examination should be conducted. An autopsy examination should be attempted in even the decomposed body. Careful opening of the abdomen may reveal an abdominal catastrophe and this should be attempted. It is expected that every reasonable step be taken to arrive at a diagnosis. Sufficient samples should be collected and appropriately stored to allow full laboratory evaluation if required.

Laboratory reports should not be made available to the insurer without the consent of the owner of the insured animal.

The use of photographic and/or video records is encouraged.

The post mortem report should be succinct and relate only to the abnormalities detected. If the cause of death is undetermined this should be stated. The results of any other follow up tests performed should be reported.

4. Wobbler Syndrome

4.1 Definition

Wobbler syndrome: - Horse is suffering from cervical vertebral malformation and/or spinal cord compression and/or cervical compressive myelopathy.

4.2 Many horses will be covered by mortality insurance if they are diagnosed as a wobbler during the period of insurance. In most instances a horse will need to be classified as a Grade 3 wobbler before it will be accepted by an insurance company that euthanasia is necessary. In some policies wobblers will be covered by the normal mortality insurance cover, while in others they will be covered under a specific extension to that policy.
4.3 Grading system
The following grading system may be used when evaluating wobblers for insurance purposes.

Grade 0  Neurologically normal.
Grade 1  Neurological defects barely detectable at normal gaits; exacerbated by excitatory tests.
Grade 2  Neurological defects readily seen at walk.
Grade 3  Neurologically worse defects and a horse may stumble or fall with manipulation.
Grade 4  Horse may fall at normal gaits.
Grade 5  Recumbent.

4.4 The following terminology is commonly used in mortality insurance policies in regard to wobblers.
'Subject to all of the terms, conditions and exclusions of the Insurance to which this clause is attached, the Underwriters will indemnify the Assured in the event of the horse being diagnosed during the period of the Insurance as suffering from the condition known as wobbler syndrome of a minimum level of Grade 3, which is deemed to be chronic and progressive in nature, as defined herein and subject to the conditions stated below.'

Conditions

a) It is a condition precedent to any liability of the Underwriters that the diagnosis of wobbler syndrome be supported by radiographic &/or myelographic evidence where deemed necessary (during the period of this Insurance) confirming wobbler syndrome (as defined above) and that this is deemed by both the Assured’s and the Underwriters’ Veterinary Surgeon to be chronic in nature and progressive and of a minimum level of grade 3 as stated above.

b) This Insurance is extended to cover death or destruction for humane reasons of the horse directly caused by, happening through, in consequence of or contributed to by a surgical operation conducted by a Veterinary Surgeon and certified by him to have been necessitated solely by the radiographic &/or myelographic evidence in a) above.

c) It is a condition precedent to any liability of the Underwriters that in the event of any uncertainty or dispute between the Assured’s and the Underwriters’ Veterinary Surgeon as to whether the wobbler syndrome condition confirmed by radiographic &/or myelographic evidence is chronic in nature and progressive and of a minimum level of grade 3 as stated above then a third Veterinary Surgeon mutually agreed upon by the two appointed Veterinary Surgeon shall render an independent opinion which will be final and binding upon the Assured and the Underwriters. The fees of the appointed Veterinary Surgeon shall be paid by the party making the appointment and the fee of the mutually agreed Veterinary Surgeon shall be apportioned equally between the Assured and the Underwriters.

d) In the event of a settlement by the Underwriters of a claim under this extension clause then undisputed title and ownership of the Assured’s interest in the horse shall pass to the Underwriters if so desired by them.'

5. Pregnancy (Prospective Foal) Insurance

5.1 The veterinary surgeon is reminded of his or her responsibility in writing certificates.

5.2 When a pregnancy is to be insured, testing for pregnancy must be performed 45 days or more from the last day of service.

5.3 Where evidence of twins is detected the information should be included on the certificate. It is understood that evidence of twin pregnancies may not be detectable by some current diagnostic procedures.

5.4 When a mare is suspected of having an abortion and the pregnancy is insured, the mare must be properly identified and examined to ascertain if an abortion has occurred. Where feasible an attempt should be made to ascertain the cause of the abortion.

5.5 When a pregnancy is insured and an aborted foetus is discovered an autopsy examination should be carried out on the foetus and placenta to attempt to ascertain the cause of death.

5.6 Where an insured neonate dies the guidelines for mortality cases should be followed.

5.7 The following wording may be present in policies relating to the insurance of pregnancies:

Prospective Foal Wording
This Insurance shall indemnify the Assured, up to but not exceeding the Limit of Underwriters Liability specified in the Schedule, in the event that:-

i) a mare named in the Schedule is not in foal at the expiry of the Period of Insurance
or
ii) a foal in utero named in the Schedule is not alive at the expiry of the Period of Insurance

Visual Proof of Loss Clause
No loss shall be payable under this extension unless and until a written Veterinary Surgeon’s report has been received and accepted by the Underwriters certifying visual inspection by the Veterinary Surgeon of:

i) the recently aborted foetus and evidence of a named mare having recently aborted
or
ii) the delivery of a dead foal by a named mare
or
iii) the death during the Period of Insurance of a live born foal
or
iv) an autopsy examination of a named mare revealing the existence of an unborn foal
Multiple Pregnancy Exclusion
This insurance does not cover risk of multiple pregnancy. In the event that a named mare is proved to be carrying or has aborted twins this insurance shall be null and void and the applicable premium will be returned in full.

Notwithstanding anything contained in this extension to the contrary, it is noted and agreed that provided the Underwriters have received and accepted in writing:

Three scanner reports showing negative twins diagnosis made to a Veterinary Surgeon or other scanner operator approved by the Underwriters with the first scan having been taken between 14 and 19 days after the last service and the second scan between 20 and 35 days after the last service. The third scan to take place at 42 days or at inception (if later) then the Visual Proof of Loss Clause is deleted and ii) in the event of a multiple pregnancy the Underwriters will indemnify the Assured up to but not exceeding the Limit of Liability specified in the Schedule. All other terms and conditions of this Insurance remain unaltered.

Warranty By Assured IgG Levels are to be tested at birth of a foal and plasma must be available for transfer as required.

6. Stallion Infertility

6.1 Many stallions will be insured against infertility as an extension clause to mortality insurance. There are two types of infertility insurance. The first is aimed at covering the first season stallion which may be found to be infertile, often from congenital abnormalities. The second form of insurance covers loss of fertility that may arise from accident, sickness or disease. In this latter case the stallion has previously been fertile, as opposed to the “congenital” infertility policy.

Veterinarians need to be aware of these different policies and the requirements for documentation and evaluation in each case.

The following wording commonly applies:

‘Stallion Infertility Extension Clause (Accident, Illness and Disease)

In consideration of the premium paid for this Extension and subject to the terms, conditions and exclusions, this Insurance is extended to indemnify the Assured against the loss which may be incurred in the event of any Insured Stallions becoming, during the Period of Insurance and any extension period, totally and permanently impotent, infertile or incapable of serving Mares as a result of an Accident, Illness or Disease sustained or contracted during the Period of Insurance and notified to the Underwriters in accordance with Condition 2 below.

Such indemnity shall be limited to: the Actual Cash Value of the Insured Stallion immediately prior to the Accident or the first manifestation of the Illness or Disease giving rise to the loss, or the Agreed Value of the Insured Stallion, where this Insurance is endorsed with an Agreed Value Clause applying to the Insured Stallion in the event of its death, but not exceeding the limit of the Underwriters Liability specified in the Schedule in respect of the Insured Stallion.

Definitions

In the context of this Extension Clause the term: Insured Stallion: shall mean only those Stallions, insured under this Policy, to which this Extension Clause is intended to apply

Impotent: shall mean ‘the failure of the Stallion to achieve intromission’

Infertile: shall mean and be limited to ‘sterile’

Serving Mares: shall mean ‘achieving intromission’

100% Interest: shall mean the insurable interest derived from 100% ownership of the Insured Stallion.

Exclusion

This Extension Clause does not cover any loss arising from the death of the Insured Stallion.

Conditions

It is a Condition precedent to any liability of the Underwriters hereunder that the Assured shall comply with the Conditions of this Insurance. It is a Condition precedent to any liability of the Underwriters hereunder that the Assured shall give immediate notice to the person specified in the Schedule for the purpose of condition 3.8 of this Insurance, in the event of there being any indication of an Insured Stallion being incapable of either serving Mares or achieving pregnancies. In the event of any uncertainty or dispute as to whether an Accident sustained or Illness or Disease contracted by an Insured Stallion has caused total and permanent incapacity as provided for above, it is agreed that the question shall be referred to a panel of three Veterinary Surgeons, one appointed by the Assured, one to be appointed by the Underwriters and the third to be mutually agreed upon by the two appointed Veterinary Surgeons. The decision of this panel in the matter shall be final and binding on the Assured and the Underwriters alike.

The Assured and the Underwriters shall pay the fees of the Veterinary Surgeon which they appointed, but the fees of the third Veterinary Surgeon shall be apportioned equally between the Assured and the Underwriters.

In the event of claims for 100% interest in the Stallion the underwriters shall, if they so elect, take undisputed ownership of the Stallion and shall be subrogated to all rights and remedies which the Assured may have against Third Parties in connection with the said claim. In the event of claims for less than 100% interest in the Stallion the Underwriters reserve the right thereafter to take title and possession of any interest in the Stallion for which claims have been paid under this Extension Clause. It is understood and agreed that payment of a claim under this Extension Clause entitles the Underwriters to all the Assured’s rights under Syndicate, Partnership or Joint Ownership agreements in respect of the Assured’s interest in the Insured Stallion.
Failure or inability to deliver undisputed ownership, of the insured interest in the live Stallion, to the Underwriters as salvage will void the Extension Clause in respect of that Stallion and relieve the Underwriters of all liability under this Extension Clause in respect of that Stallion, except as may have been incurred in connection with the panel of Veterinary Surgeons under Condition 3 of this Extension Clause in respect of that Stallion.

In the event of the payment of a claim by the Underwriters under this Extension Clause the limit of Underwriters Liability, specified in the Schedule in respect of the Insured Stallion, shall forthwith be reduced by the amount of such payment.”

7. Loss of Use

Some horses will have a loss of use extension in addition to mortality insurance. Examination of the horse for loss of use may require special examination as directed by the insurer. The AEVA 5 Stage Examination, with further testing as directed, is considered appropriate.

Determining loss of use can be very difficult for a veterinarian who may not be fully familiar with the horse’s normal activity. In many instances a period of time must be allowed to pass, with regular veterinary examinations, to determine that the horse will not recover from the condition affecting it. Good communication with the insurance company is paramount. Most horses subject to a loss of use claim will require a second opinion, often by a veterinarian appointed by the insurance company.

CHAPTER 7

Examination of Horses Prior to Purchase for Breeding Purposes

The examination of horses for breeding purposes is a specific one and thus must be separate and distinct from other forms of examination. It requires special examination techniques and at least in the case of the stallion, laboratory aids.

Examination of Mares

In the case of mares it must be determined to the best of our ability if the mare is satisfactory, questionable or unsatisfactory as a breeder. Interpretation of the findings resulting from the examination must be done carefully.

History

A reliable breeding history if available is an important aspect for consideration by the owner. This includes service and foaling data, as well as any difficulties encountered, twinning, abortion, retained membranes, sexual behaviour etc.

General Health

Although the general examination of the broodmare need not be as critical as the examination of horses for racing purposes, the mare must be able to forage normally and be free from any condition likely to have a debilitating effect. It is recommended Stage I and II of the previous examination of horses for sale be performed as part of the general physical examination.

It should be determined whether the mare is capable of thriving under normal stud husbandry conditions. The teeth should be examined, as well as the eyes and heart.

Musculoskeletal conditions are important, as chronic pain and disability can affect reproductive efficiency. Chronic laminitis is common, as is osteoarthritis. The mare should be trotted out and the feet examined for pain on hoof tester, as well as dropped soles, laminitic rings and cracks.

Mares should be examined for abdominal body wall defects, such as ventral rupture or hernias, or evidence of previous abdominal surgery.

Mammary Gland

A thorough examination will include inspection and palpation of the mammary gland for evidence of fibrosis indicating previous mastitis, or other abnormalities which will interfere with the mare’s ability to rear a foal.

External Genitalia

The perineum and vulva should be inspected. Any tumours such as melanoma or carcinoma are noted. These may affect vulval function and the latter are life-threatening. Many older grey horses exhibit multiple low-grade melanoma without serious consequence. The angle, length and tone of the vulval lips should be assessed, with any evidence of past or present Caslicks surgery. The clitoris should be inspected for normality.

Internal Genitalia

In pregnant mares the reproductive examination is restricted to inspection of the external genitalia and confirmation of pregnancy. In the non-pregnant mare a speculum and manual examination is conducted of the vulva, vagina and cervix. The competency of the vulval sphincter is assessed, and the presence of a hymen or remnants is noted. Any discharge from the cervix or vagina, or mucosal hyperaemia is significant. Evidence of pneumovagina or urine pooling is an adverse finding. The patency of the cervix should be established by digital examination in non-pregnant mares.

A manual and ultrasonographic transrectal examination of the internal genitalia is an essential part of any female reproductive prepurchase examination. The uterus and cervix should be palpated for pregnancy, tone, and abnormality. The ovaries should be assessed for size, position and follicular activity. Ultrasound examination should determine presence of intraluminal fluid, which may indicate endometritis, as well as endometrial cysts. The latter are most common in older pluriparous mares, and may interfere with uterine function and implantation. Cyclic activity and the stage of the oestrus cycle should be determined by assessment of endometrial folds and examination of ovaries for size and number of follicles. Corpora lutea and any abnormalities such as ovarian tumours or cysts are noted.
**Endometrial Biopsy**

Endometrial biopsy should always be offered in a prepurchase reproductive examination. This is especially important in valuable mares, older pluriparous mares, and those with an uncertain breeding history. Biopsy specimens should be submitted to an equine pathologist experienced in interpreting and grading biopsies.

There is a poor correlation between fertility and uterine bacteriological cultures. Culture results should be interpreted with caution, and are not in isolation evidence of subfertility.

**Examination of Stallions**

**External Genitalia**

The examination of the stallion for breeding purposes is less frequently requested than the examination of potential broodmares. Furthermore, it requires laboratory examination of semen and the results might be more difficult to interpret. It is suggested that unless a practitioner is equipped and comfortable to perform prepurchase examination of stallions, a referral to a suitable facility is in order. Physically, the stallion must be capable of mounting the mare and completing the act of copulation with ejaculation of a sufficient volume of urine-free semen. It is recommended Stages I and II of the previous examination are performed as part of the general physical examination. General clinical observations on health, and particularly musculoskeletal conditions such as lameness, arthrosis and laminitis, are relevant to prepurchase evaluation. The external genitalia should be examined by palpation and inspection. The testicles have a firm fleshy texture and the epididimi should be soft and readily distinguishable. Rotation of either testis should be noted. A retained testicle is a breeding unsoundness. The total scrotal width should be >80 mm

Semen evaluation is performed by collection into an artificial vagina. Observations should be made on temperament, serving behaviour and libido, including number of mounts to ejaculation. Semen should be collected preferably after 1 week of sexual rest, and 2 samples should be collected, 1 hour apart. The following observations should be made:

- Total and gel-free volumes
- Sperm concentration (X10^-6/ml)
- Total sperm per ejaculate (X10^-9/ml)
- Percent progressively motile sperm
- Morphology
- pH
- Number of mounts per ejaculate and sexual behaviour
- Cultures from urethra, prepuce and semen after 2 ejaculates

Total scrotal width

Most fertile stallions have sperm of average to high numbers (4.6 billion or better) sperm of high motility (greater than 60% progressively motile), sperm with a low proportion of abnormal forms (less than 10% primary, and less than 30% secondary). Bacteria will often be cultured from the urethra or semen. Usually they are mixed types and are reduced on post-ejaculation samples. The strain of bacteria recovered is important if it concerns Klebsiella and Pseudomonas. Recovery of the same bacteria from the semen of the stallion and infected mare following cover by the stallion will require further investigation. The effect of season is taken into consideration before making a decision concerning semen quality.

The stallion is classified as a satisfactory potential breeder, a questionable breeder, or an unsatisfactory potential breeder. Stallions that fail to quality as satisfactory potential breeders should be reevaluated.
Certification of Horses for Breeding Purposes

Owner ........................................................................................................................................................................

Owner’s Address ........................................................................................................................................................

Person requesting examination .................................................................................................................................

Address ......................................................................................................................................................................

Person in charge of horse ........................................................................................................................................

Location of horse ......................................................................................................................................................

Name of horse presented as ......................................................................................................................................

Colour: ........................................... Sex: ........................................... Age: ........................................... Breed: ...........................................

Approx. Height: ......................................................................................................................................................

Sire: ........................................... Dam: ................................................

Description Of Horse ................................................................................................................................................

Draw brands and markings; mark hair whorls X, scars 0 ........................................................................................

CLINICAL EXAMINATION

Place and dates of examination ................................................................................................................................

Examination procedures used: ................................................................................................................................

Remarks: ....................................................................................................................................................................

I can find no medical reason that would prevent this horse from being suitable for breeding purposes

(Veterinary Surgeon) .................................................................................................................................

Address.....................................................................................................................................................................
Veterinarian’s Record of the Examination of a Mare
Prior to Sale for Breeding Purposes

1. Name
Owner ............................................................ Mare ............................................................

2. History
Maiden ........................................................... Not pregnant ............................................. Pregnant ...........................................
Oestrus behaviour: normal ............................................ abnormal ............................................
Previous stud record ....................................................................................................................................

3. Clinical Examination
(i) General Physical Examination
(a) physical condition ...................................................... (b) teeth ......................................................
(c) eyes ....................................................................... (d) head ......................................................
(e) left foreleg ............................................................... (f) right foreleg ..............................................
(g) chest ...................................................................... (h) heart ......................................................
(i) pelvic symmetry ......................................................... (j) mammary glands ........................................
(k) left hindleg ............................................................... (l) right hindleg ................................................
(m) anus and tail ............................................................ (n) vulva ......................................................
(o) feet ........................................................................ shape ..........................................................
(p) walk ........................................................................ discharge ......................................................
(q) trot ......................................................................... caslick ......................................................
(r) turn .............................................................................
(ii) Internal Examination
(a) Rectal/Ultrasound cervix .........................
left ovary ............................................................... size .............................................................. structures	right ovary ............................................................... size .............................................................. structures
uterus ............................................................... size .............................................................. shape ................. tone
(b) *Vaginal
vagina ............................................................... cervix .............................................................. patency ..........................................
(c) *Speculum vagina .............................................. cervix ..............................................................

4. Comments: ........................................................................................................................................

5. Opinion given: ........................................................................................................................................

* Note:- should not be undertaken if pregnant
Veterinarian’s Record of Examination of a Stallion
Prior to Sale for Breeding

1. Name

Owner ................................................................. Stallion ........................................................................

2. History

Stood at stud previously: ........................................... No. mares booked/season ...........................................................
Previous conception rate(s): .................................................................
Pasture bred: ........................................................... Hand bred: ............................................................
Covers / day ........................................................ Covers / week ............................................................
Temperament:

3. Clinical Examination

(i) General physical examination as for Stage 1 of examination of horse for sale

(ii) Genital Organs

Penis: .............................................................................. Inguinal Canals: ............................................................
Prepuce scrotum: ........................................................... Testes & Epididymis: ..............................................................
Testis size: ........................................................... Right: ........................................................... Left: ............................................................
Urethral culture: ........................................................... pre ejaculate ........................................................ post ejaculate

4. Serving Techniques

Observed at service ........................................................ Erection ............................................................
Libido .............................................................................. Copulatory movements ............................................................
Intromission ........................................................................ Relaxation ............................................................
Ejaculation ..........................................................................

5. Semen Examination

1st ejaculate ...................................................................... 2nd ejaculate ................................................................
Time ..............................................................................
Type of A.V ........................................................................ Filter ............................................................
Colour .............................................................................. Odour ............................................................ pH ............................................................
Consistency ..........................................................................
Volume: total ........................................................... Volume: gel ............................................................
Motility: total ................................................................... progressive ........................................................... other ............................................................
Concentration (ml) ..................................................................
Haematocytometer ..................................................................
Photometric ...................................................................... (%T=) ............................................................ (%T=) ............................................................
Total Spermatozoa ..................................................................
Morphology (% Normal) ............................................................

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Prior to Sale for Breeding

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6. Comments

7. Opinion given

CHAPTER 8

Clinical Examination of Horses at Sale Rings

Veterinarians in Australia are frequently requested to examine horses at sale venues. Such places are usually not designed for the examination of horses and consequently are seldom suitable for the careful appraisal of an animal. Often there is no suitable area in which to carry out a detailed examination and frequently the animals are in an excited state due to the unfamiliar surroundings, the presence of numerous other horses, and crowds of interested people.

Most horses are sold in Australia as yearlings and many of these have had only a limited education. As a consequence they are often difficult to control in the sales environment. Because of these problems, a complete examination of a horse is not usually possible.

Tradition has established a limited form of examination which has become accepted by the majority of horse buyers in Australia. This limited examination involves the following:- visual examination of the head, neck, body, external genitalia, fore and hind limbs, palpation of the head, neck, body and fore limbs and any visible abnormality elsewhere on the body which is palpable, auscultation of the heart and, on some occasions, the chest and examination of the limb movements during walking.

On frequent occasions it is not possible to adequately perform even this simplified examination since an excited animal may be difficult to handle and reluctant to walk normally. Moreover the background noise at the sale may preclude auscultation. Under such conditions the veterinarians can only examine the animal as circumstances permit.

CHAPTER 9

Pregnancy Examinations

The following definition of pregnancy in the mare has been drawn up in conjunction with The Bloodhorse Breeders Association and the Australian Equine Veterinary Association. This definition should be used for sale purposes, contracts between owners of mares and stud masters and for insurance purposes when applicable.

The definition is as follows:-

Pregnancy Test:

A state of pregnancy is said to have existed when:

- The mare foals within an appropriate period after last service or aborts a foetus of appropriate age in relation to service, or is shown to have an abnormal pregnancy.
- A served mare ceased to show oestrus for a period of not less than 60 days thereafter and gives a positive reaction to a recognised biological test for pregnancy after 45 days from the last service, or
- Positive signs of pregnancy are found on rectal examination at least 45 days after the last service, by a veterinary surgeon with appropriate expertise, or
Evidence of a foetus with a viable heart beat is detected when an ultrasound scan is conducted per rectum 45 days or more from the last day of service.

N.B. When ultrasound examinations are performed, careful scanning of the entire genital tract must be carried out, particularly in relation to the presence or absence of one or more foals. Diagnosis of twinning becomes difficult to impossible in some mares with a pregnancy of more than 45 days.

Veterinarians should be aware that conditions of sale similar to that below may result in a request for a pregnancy examination. In such cases the veterinarian should ensure that the pregnancy examination is conducted in accordance with the requirements set by the sales company, in particular the designated time frame.

"Where a positive test is given prior to sale the Purchaser may, at his or her own expense, have the mare manually examined before it leaves the sale area, and within 24 hours of the fall of the hammer. In the event of the mare being proved not in foal the sale is null and void and the Vendor in this case pays the cost of re-examination. Mares whose last date of service was less than 45 days before sale are excluded from this condition"