BHA

LEVEL 3

RACEHORSE CARE

Workbook

BRITISH HORSERACING AUTHORITY

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INTRODUCTION

This workbook has been designed to support the training and development of senior stable staff that have developed and established the skills and knowledge to work successfully in the racing and Thoroughbred breeding industries.

It can be used to develop an understanding of the skills required to work in a senior position in the industry and will also help candidates working towards qualifications to identify and collect evidence that is needed for assessment.

Each section broadly relates to elements of a Level 3 qualification and to specific areas of the work likely to be undertaken by someone developing their careers in this sector.

Each section is supported by a series of 'self-tests' or assignments. These are designed to encourage the development of knowledge and understanding, presented in a form that can then be assessed.

FEEDING

This section is about feeding horses including: planning diets, implementing feeding regimes, and monitoring and maintaining the stocks of feed and bedding.

By studying this section you will have an understanding and knowledge of:

- the nutritional requirements of the horse
- types of forage, feed and feed preparation
- the rules of feeding and watering
- the dietary requirements of horses of different age, condition and level of work
- planning rations for a variety of horses
- diseases and illnesses that require special diets
- the principles of purchasing, checking and storing feed and bedding.

NUTRITIONAL REQUIREMENTS OF THE HORSE

Nutrition and feeding are critical factors in the care and management of growing and working horses. Feeding is considered by many to be a combination of science and experience built up over a number of years, and an experienced or senior member of staff normally carries out the preparation of suitable diets. The aim of this section is to explain some of the scientific and practical aspects of horse nutrition that underpin feeding practices.

NUTRIENTS

The nutrients required for a balanced diet fall into the following categories:

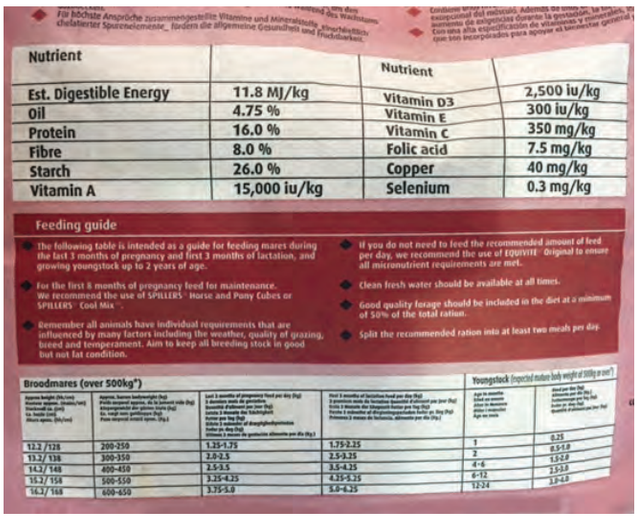
- carbohydrates
- fats and oils
- protein
- water
- minerals
- vitamins.

CARBOHYDRATES

Carbohydrates provide the energy needed for all bodily functions such as breathing and the beating of the heart. They also provide energy for muscle contraction, so horses in work need higher levels of carbohydrate in their diet. There are two forms of carbohydrate:

- **soluble** – sugar and starch are soluble carbohydrates, they are easily digested, providing the horse with 'instant' energy; cereals are high in starch
- **insoluble** – fibrous feeds such as hay and haylage contain insoluble carbohydrates (e.g. cellulose) that are digested over a period of time, providing the horse with 'slow release' energy.

The energy level of a feed is measured as mega joules of digestible energy per kilogram (MJ DE/kg). This is the metric equivalent of the calorie content.



Nutrient		Nutrient	
Est. Digestible Energy	11.8 MJ/kg	Vitamin D3	2,500 iu/kg
Oil	4.75 %	Vitamin E	300 iu/kg
Protein	16.0 %	Vitamin C	350 mg/kg
Fibre	8.0 %	Folic acid	7.5 mg/kg
Starch	26.0 %	Copper	40 mg/kg
Vitamin A	15,000 iu/kg	Selenium	0.3 mg/kg

Feeding guide

- The following table is intended as a guide for feeding mares during the last 3 months of pregnancy and first 3 months of lactation, and growing youngstock up to 2 years of age.
- For the first 8 months of pregnancy feed for maintenance. We recommend the use of SPILLERS® Horse and Pony Cubes or SPILLERS® Cool Mix™.
- Remember all animals have individual requirements that are influenced by many factors including the weather, quality of grazing, breed and temperament. Aim to keep all breeding stock in good but not fat condition.
- If you do not need to feed the recommended amount of feed per day, we recommend the use of EQUIVITE® Original to ensure all micronutrient requirements are met.
- Clean fresh water should be available at all times.
- Good quality forage should be included in the diet at a minimum of 50% of the total ration.
- Split the recommended ration into at least two meals per day.

Broodmares (over 500kg*)				Youngstock (expected mature body weight of 500kg or over)	
12.2/128	200-250	1.25-1.75	1.75-2.25	1	0.25
13.2/138	300-350	2.0-2.5	2.5-3.25	2	0.5-1.0
14.2/148	400-450	2.5-3.5	3.5-4.25	4-6	1.5-2.0
15.2/158	500-550	3.25-4.25	4.25-5.25	6-12	2.5-3.0
16.2/168	600-650	3.75-5.0	5.0-6.25	12-24	3.0-4.0

The horse is a herbivorous animal and the digestive processes are assisted by the presence of fibre in the gut. All the normal constituents of the horse's diet contain some fibre, but hay/haylage is the main source and is referred to as roughage. A horse should have at least 40% of its total diet as roughage.

FATS AND OILS

Fat is a concentrated form of energy and can be stored in the body and released as energy when required. The normal diet contains a sufficient amount of fat and oils, however horses in very hard work may benefit from additional oil in the diet. Some specialised compound feeds contain high oil levels.

PROTEIN

Protein is required for growth, to build up new body tissue and to rebuild and replace that lost through wear and natural wastage. Protein is also a source of energy, but only if there is not enough carbohydrate in the diet. When the young racehorse is growing and developing bone and muscle, it will need more protein than an adult horse. It is normally considered that a diet of high quality feed and roughage will be sufficient to supply the protein requirements of an adult horse.

Protein requirements

Type of activity	% crude protein in the ration
Light to medium work	7.5–8.5
Hard work	8.5–10
Pregnant mare	8–13
Lactating mare	12–14
Weanling	14–16
Yearling	12–14
Two year old	10–12
Three year old	9–10.5
Adult horses	7.5–10

Protein in a feed is measured as the percentage of crude protein (% CP).

WATER

All food material contains some water, but the main source is drinking water. The supply of water is very important and thirst will cause death in a much shorter time than hunger. Water is needed to:

- maintain blood volume
- produce saliva
- replace liquid lost in breathing, sweating, urination and defecation.

A horse can drink up to 55 litres (12 gallons) of water a day; this will vary according to the horse's work, the weather and diet.

A loss of 8% of body water causes dehydration and a loss of 15% can cause serious illness. Clean, fresh water should be freely available to horses at all times.

VITAMINS

Vitamins are a complex group of organic substances that are essential, in small quantities, for the normal metabolic function of the body. Vitamins either occur naturally in certain foods or are made (synthesised) by the horse from materials in the diet.

Vitamins are required for growth and general good health. The fat-soluble vitamins A, D, E and K are stored in the body. The water-soluble vitamins, B group and C, need to be supplied daily in the diet.

Functions of vitamins

Fat-soluble

- **A** – vision and healthy immune system; found in succulents, hay and cod liver oil
- **D** – bone structure through the absorption of calcium and phosphorus; made in the skin in sunlight, and found in cod liver oil
- **E** – muscle and nerve function, fertility, stamina and performance; found in legumes, hay, grains and linseed oil
- **K** – blood clotting; found in forage and hay.

Water-soluble

- **B** group (B1, B2, B3, B6, B12, B15, folic acid, biotin, chlorine) – regulation of metabolism, enzyme action, prevention of anaemia; found in forage, hay and cereals
- **C** – function of the immune system, cell maintenance and repair; found in grass and forage, the horse can manufacture its own vitamin C.

MINERALS

Mineral balance is important and a well-balanced diet normally provides the minerals required by a horse. The term 'essential' is only used for those mineral elements that have been proved to have a role in the horse's metabolic processes. The classification of these minerals into either major or trace elements is dependent on the concentration in the body. The essential minerals are:

- major minerals – calcium, phosphorus, magnesium, potassium, sodium
- trace elements – copper, zinc, manganese, iron, iodine, selenium, cobalt.

Functions of minerals

- Calcium – healthy bones and teeth, muscle function, blood clotting; found in hay, grass, sugar beet, legumes (alfalfa and clover)
- Phosphorus – healthy bones and teeth, muscle function; found in hay, grass and cereals
- Magnesium – healthy bones and teeth, energy production, muscle and nerve function, cell metabolism; found in grass, hay, legumes, linseed
- Potassium – body fluid regulation, acid-base balance, nerve and muscle function, carbohydrate metabolism; found in grass and hay
- Sodium – controls fluid balance, transmission of nerve impulses, absorption of sugar from the gut; most feeds fed to horses are low in sodium; the diet should be supplemented with common salt (sodium chloride) by adding salt to the feed or a salt lick
- Copper – formation of bone, cartilage, hair pigment and the synthesis of haemoglobin, found in red blood cells; the amount of copper in feedstuffs will depend on the amount of copper in the soil where the feed was grown; seeds such as linseed are high in copper
- Zinc – normal cell metabolism; found in cereal grains
- Manganese – cartilage formation; found in wheat bran
- Iron – haemoglobin and red blood cell production, a deficiency of which can cause anaemia; most natural feeds contain iron, so horses are unlikely to be deficient
- Iodine – metabolic rate, growth and development; sufficient amounts in most feeds
- Selenium – in conjunction with vitamin E protects and maintains normal muscle function; some soils are deficient in selenium and the grass and feeds grown there will be low in the mineral; horses in these areas may need to have their diet supplemented with selenium
- Cobalt – prevents anaemia; found in most feeds.

TRADITIONAL FEEDS

Feed Type	Description	Nutritional Value	Feeding Advice
Oats	Large, hard, shiny and dust free	8–10% crude protein 11–14 MJ DE/Kg 10–12% fibre 4% oil Low in calcium	Good, traditional energy-giving feed, relatively high in fibre. Fed rolled for better digestion. Naked oats are higher in energy and lower in fibre
Maize	Shiny yellow, large flakes	8% crude protein 14–15 MJ DE/Kg. 3% fibre 4% oil	High energy, low fibre feed. Usually fed steamed, flaked or rolled. Palatable and easily digested. Good for putting weight on horses in poor condition
Barley	Bright, clean and plump	8–10% crude protein 12–13 MJ DE/Kg. 5% fibre 2% oil Low in calcium	High energy feed, good for putting weight on horses. Boiled barley is a useful, easily digested feed which can be used after hard exercise. Can be fed rolled, steamed, flaked, micronised or boiled
Bran	Pinkish flakes should be dry and dust free	15% crude protein 10 MJ DE/Kg. 11% fibre 3% oil	Adds bulk and aids digestion. Has mild laxative properties. Fed in excess it can inhibit calcium absorption. Can be fed as a mash. Low in calcium
Linseed	Small, hard shiny brown seeds	22% crude protein 18 MJ DE/Kg. 31% oil	High in oil and protein. Improves condition. Highly palatable and has mild laxative properties. **Must** be boiled before feeding to destroy toxins
Sugar beet	Dark brown shreds, pellets or cubes. Can be mistaken for pony cubes	7% crude protein 10 MJ DE/Kg. 34% fibre 1% oil	**Must** be fed soaked. High fibre, high calcium. Not widely used in diets of horses in hard, fast work
Oil	Sunflower, corn and soya oils are most commonly used	0% crude protein 35 MJ DE/Kg. 0% fibre Cod liver oil provides vitamins A,D and E	Oil can provide energy and improve coat condition
Peas and beans	Large, green flakes	24% crude protein 13 MJ DE/Kg 6% fibre 5% oil Good source of lysine	Palatable and useful to tempt difficult and 'fussy' feeders. Normally fed steam-flaked or micronised. Sometimes mixed with flaked maize and barley
Chaff or chop	Brown or green chopped straw, hay and/or alfalfa. May also contain molasses or oil	Varies depending on the proportion of ingredients 10–14% crude protein 7.5–12.5 MJDE/kg 27–35% fibre 1.5–12% oil	Generally used to add fibre to the hard feed and increase chewing time. Alfalfa chaff is highly nutritious in its own right

COMPOUND FEEDS

There is a large range of mixes and cubes prepared by feed manufacturers to suit a variety of horses in different work situations. The range includes:

Type	Use
Horse and pony	For horses in light to medium work
Competition	For performance horses in medium to hard work. Contains no prohibited substances
Racehorse	For racehorses and competition horses in peak fitness undertaking hard, fast work. Contains no prohibited substances
Stud	For brood mares and stallions. High protein and energy
Foal creep pellets	Include high-quality protein to encourage growth and development
Yearling	For growing youngstock
High fibre	For replacing all or part of the hay ration for horses with serious dust allergies, for horses at rest or at risk of laminitis

The advantages of feeding a compound feed are:

- consistent quality
- balanced diet
- prepared for range of types and requirements
- long shelf life
- convenient
- dust free
- palatable.

FORAGE OR BULK FEEDS

Hay

Hay provides all the bulk needed as a substitute for grass. Good hay should be sweet smelling, a light greenish/brown colour, crisp and free from dust. There should be no sign of damp and mould. There are three main types available:

- Meadow hay – This comes from permanent pasture and has a soft texture. Used for horses in light to medium work. Contains a wide variety of grasses.
- Seed hay – This is made from temporary pasture. It is usually used for horses in hard work. It tends to be harder to the touch than meadow hay.
- Lucerne/alfalfa – A clover type plant used in the same way as hay. High in protein and calcium.

Horses that suffer from respiratory problems may need to be fed soaked or steamed hay.

Haylage

Haylage is made by cutting grass a little earlier than would be done for hay, leaving it to dry or 'wilt' for a short period of time, before baling it and wrapping tightly in plastic so that the bale is airtight. Haylage should be sweet smelling and mould free. It has a higher feeding value than most hay and is highly palatable. It can be purchased in small bales (approximately 25kg) for the single horse or in large bales for feeding several horses. Once the bale is opened or the plastic punctured in any way, the haylage will start to deteriorate and should be used within days.

Feeding forage

Hay and haylage can be fed in a variety of ways. The most commonly used are:

- from the ground – the most natural way but can be wasteful unless small portions are fed frequently
- hay racks – attached to the stable wall; less common and have the disadvantage that seeds may fall into the horse's eyes
- haynets – economical and easy to weigh hay on a spring balance; must be secured safely.

SUPPLEMENTS AND ADDITIVES

Supplements

Broad-spectrum mineral and vitamins supplements are designed to ensure that the horse receives the correct balance of these micronutrients. This is particularly important for stabled, high-performance horses such as racehorses.

Additives

Additives usually consist of substances that are added to the diet for a specific reason, for example if the horse has poor hoof quality. Commonly used digestive supplements are probiotics, prebiotics and yeast culture that are added to the diet to enhance digestive function and create a healthier digestive tract.

If an additive or supplement is needed, veterinary surgeon or nutritionist advice should be followed and the points listed below considered:

- correct storage procedures should be followed, normally in a cool dry place avoiding exposure to strong sunlight
- manufacturer's instructions must be followed
- use by the 'sell by date'
- introduce gradually
- mix into feed thoroughly.

FOOD PREPARATION

MICRONISATION

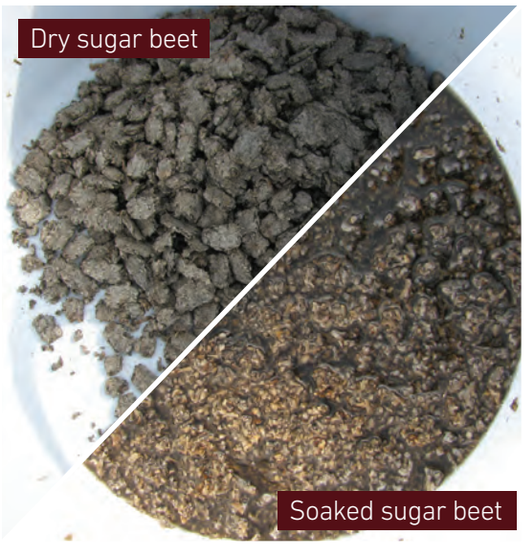
Grain, for example barley, is micronised by being passed beneath a series of burners that omit infrared radiation. This causes rapid internal heating and a rise in water pressure that causes the starch in the grain to swell, break and gelatinise. The grain is then passed through rollers and cooled.

STEAM FLAKING

The grain (for example barley or maize) is passed through heated rollers that cook and split it. Both these methods improve the digestibility of the feed.

SOAKING

Sugar beet is a feed that must be soaked prior to feeding. Shreds should be soaked for approximately 12 hours and pellets or cubes should be soaked for approximately 24 hours. Sugar beet should not be fed to horses without soaking, because it is liable to swell up inside the oesophagus or stomach and cause choking or colic.



BOILING

Whole barley and whole oats may be boiled before feeding. They should be soaked to soften the outer husk of the grain and boiled for approximately one hour and allowed to simmer until the kernel becomes exposed.

When boiling linseed the grain should be soaked, usually overnight. It is then brought to the boil and boiled hard for at least 30 minutes. It is then left to simmer until the seeds have become open and the liquid is jelly-like in substance.

RATIONING

Feeding horses is generally accepted as a combination of experience, knowledge and 'feel'.

RULES OF FEEDING

When preparing the diet for a horse the following rules of feeding should be considered:

- do not work hard immediately after feeding
- feed a balanced diet
- feed according to size, age, temperament and work being carried out
- feed by weight not volume
- feed little and often
- feed only good quality forage
- feed sufficient roughage and bulk feed
- keep all feeding equipment and utensils clean
- keep to a regular routine
- make gradual changes in diet unless a dramatic reduction is needed for health reasons
- provide a plentiful supply of fresh clean water
- report any change in the horse's normal feeding habit to a supervisor
- store feed in dry, vermin-proof containers.

Feed chart

Most horses have an optimum weight at which they perform to their best and this is critical in the performance horse. No working horses should be made to carry excessive, useless weight. A fat horse must have his excess weight worked off slowly, as working a fat, unfit horse may result in unsoundness. On the other hand, if a horse starts in poor condition, there is the equally difficult job of building up muscles and maintaining appetite whilst working at the same time.

The amount of feed a horse needs depends on many factors, including:

- age
- type
- breed
- condition
- size
- work carried out
- temperament
- health
- reproductive status
- environment.

PREPARING RATIONS

Although there are many factors to be taken into consideration when preparing a ration for a horse, a rough guide to (dry) weight of total food for a day will be 2.5% of the horse's body weight. This figure will vary according to the work regime of a horse. For example, a resting horse may require as little as 1.5% dry weight of food a day to maintain condition, whilst those in very strenuous work may need up to 3%.

BODYWEIGHT

There are various methods for establishing or estimating the weight of a horse, including:

- weighbridge
- weigh crate
- weigh tape
- formulae.

APPETITE OR DAILY RATION

To calculate the daily ration the following method may be used:

$$\frac{\text{Weight of horse in kg} \times 2.5}{100} = \text{Weight of food (kg/day)}$$

For example, a 500g horse in work will require 12.5kg (27.5lb) of feed daily.

$$\frac{500\text{kg} \times 2.5}{100} = 12.5\text{kg}$$

RATIO OF ROUGHAGE TO CONCENTRATES

Once the total amount of food to be fed per day has been calculated the next stage is to decide how the ration will be made up. It is recommended that roughage will normally make up at least 40% of the ration. However, as the physical activity increases the less bulk the horse is likely to need.

The table below gives a guide to the ration of concentrates to roughage:

Work Regime	% Concentrates	% Roughage
Rest	0–10	90–100
Light work	20–25	75–80
Moderate work	30–35	65–70
Strenuous work	35–45	55–65
Intense work	50–60	40–50

WHAT TO ACTUALLY FEED

So for a 500kg horse in intense work:

Total daily ration = 12.5kg (27.5lb)
For intense work split this into 50% roughage and 50% concentrates
Making a daily ration of 6.25kg (14lb) hay and 6.25kg (14lb) concentrates

Once a ration has been prepared for a horse it is vital that the horse's health, condition and work performance and temperament are monitored and the ration altered as necessary.

DIFFERENT FEEDING REQUIREMENTS

Many horses will have specific dietary requirements.

YOUNG HORSE

Young horses should be fed a suitable balanced diet to encourage growth yet avoid growth-related problems such as epiphysitis. It is often good sense to discuss the dietary requirements for young and breeding stock with a qualified equine nutritionist.

Yearling

ELDERLY HORSE

Elderly horses tend to find it difficult to maintain condition, through either a less effective digestive system or dental problems such as sharp or lost teeth. In such circumstances these horses may need food that is easier to chew and digest.

A 23-year-old Thoroughbred

SICK HORSE

Feeding a sick horse can be difficult as the appetite is likely to be depressed, swallowing may be difficult and the digestive system may be disturbed. The diet will vary according to the nature of the illness and the provision of a suitable balanced ration plays an important part in the recovery process. The following points should be considered when preparing a ration for a horse off work through ill health:

- sufficient fibre
- reducing energy-giving feeds
- laxative properties
- good quality protein
- minerals and vitamins
- palatability.

PURCHASE AND MANAGEMENT OF FEED AND BEDDING

GENERAL PRINCIPLES

Most yards will have an established procedure for the regular purchase of feed and bedding. Local feed merchants will deliver on a regular basis depending on the size and requirement of the yard.

Ordering and monitoring of feed supplies is normally the duty of a senior member of staff who should ensure that sufficient feed is always available. Over-purchasing can lead to waste if feed is allowed to go past its 'use by date'. The purchase of feed often requires an order form to be completed, detailing the exact quantity and type of food. When delivery is received this should then be checked against the order and signed. The order form and delivery note can then be reconciled against future invoices.

Feed should be stored in dry conditions, ensuring that new supplies are not started until existing stocks are used. Correct handling and storage can avoid pest infestation. Care should be taken when lifting feed sacks and bedding. Where possible, sack barrows should be used.

STORING FEED

A separate feed room is an important feature of any stable yard. The feed room should include:

- feed bins
- water supply
- shelves
- cupboards
- feed chart.

The feed room must be maintained in a clean and tidy condition with spilt feed being swept up immediately to deter vermin.

Feed supplements should always be stored and used according to the manufacturer's instructions.

Feed room

REVISION TEST

1. Describe four ailments caused by incorrect feeding.

2. Describe how to prepare:

   (a) sugar beet

   (b) linseed.

3. List, with explanatory notes, 10 factors that should be considered when preparing a suitable diet for a horse.

4. List, with explanatory notes, 10 rules of feeding.

5. Discuss the advantages and disadvantages of feeding compound feed compared to the more traditional feed such as oats and barley.

6. Draw a plan of the feed room where you work.

7. Describe the feeding regime in your yard including:

   (a) concentrates

   (b) roughage

   (c) water

   (d) routine

8. Describe the procedures in your yard for the purchase of feed and storage arrangements.

9. Design a suitable feed ration for the following:

(a) 16.2hh Thoroughbred doing one hour road work per day

(b) 16hh Thoroughbred at racing fitness

OR

(c) Broodmare with foal at foot

ANATOMY AND PHYSIOLOGY

This section is about the basic anatomy and physiology of horses including conformation, main superficial muscles, structure of the lower leg and the digestive, respiratory and circulatory systems.

By studying this section you should have an understanding and knowledge of:

- conformation of the horse and its relationship to movement and action
- basic skeletal and muscular structure
- structure of the horse's lower leg
- basic structure of the digestive, circulatory and respiratory systems.

CONFORMATION OF THE HORSE

Conformation is the term used to describe the physical make-up of the horse. It can be broken down into two main aspects:

- static conformation – the shape of the horse as it stands
- dynamic conformation – the way the horse moves in relation to its physical make up.

When assessing the conformation it is important to consider the work a particular horse will be required to do. The conformation of a racehorse will vary greatly to that of a dressage horse or showjumper.

There are however some general principles that should be considered when assessing a horse's general conformation and type.

GENERAL IMPRESSION

The horse should be observed from all sides and time taken to form a general impression. Points to note are:

- Does the horse have a bold, kind and generous outlook?
- Does he look alert and intelligent?
- Is he generally in proportion?
- Is his temperament calm and obedient?

HEAD

The head should be well set on to the neck and in proportion to the rest of the horse's body. The eyes should be large, clear and well set with a bold, kind look.

NECK

The neck should be muscular, long enough to be in proportion and slightly arched from poll to wither. It should be well set on to the shoulder.

SHOULDERS

The shoulders should be deep and slope well back from the point of shoulder to the wither in order to give a good length of stride. The slope of the shoulder should be roughly the same angle as the pastern. A straight, upright shoulder can lead to a short, jarring action.

WITHERS

The withers should be well defined and of reasonable height. Withers that are too high may cause problems when fitting a saddle. However, flat withers may cause difficulties in keeping a saddle in place.

ELBOW

The elbow should be clear of the body and well defined. A 'tied in' elbow limits the length of stride and may increase the chance of poor action.

FORELEGS

The foreleg should be long and well-muscled. When viewed from the side and front the forelimbs should appear straight and not slope backwards, forwards or be angled. From the front a plumb line should bisect all the limb bones and hoof.

Forelegs

The knee should be broad, flat and of a good depth. There are a number of conformational faults associated with the knee including:

- over at the knee – when the knee appears to be slightly flexed
- back at the knee – when the profile of the joint appears to be concave rather than convex
- off-set knees – where the bones are not correctly aligned leading to possible strains
- tied in below the knee – where the circumference of bone is smaller just below the knee than it is further down the cannon bone.

PASTERNS

The pasterns should be of medium length with a slope of 45–50 degrees in front and 50–55 degrees behind. Longer pasterns give a springy, comfortable action but are liable to strain. Upright pasterns absorb less concussion that leads to a shorter, more jarring action.

BODY

The body should be deep through the girth, with well sprung ribs to protect the major organs.

BACK

The back should be a reasonable length, with the loins short, muscular, deep and broad to provide a good foundation for muscle used for galloping and jumping. Mares are sometimes longer in the back than stallions or geldings.

HINDQUARTERS

The hindquarters should be strong and muscular to provide power for movement. Wide, well-muscled, flat quarters are found in fast horses, while rounded quarters are typical of cobs and ponies.

HIND LEG

The hind legs should be strong and well made. There should be plenty of length from the stifle to the hock with well-developed muscle. The point of hock should be directly below the point of buttock with the line down the back of the cannon bone dropping straight towards the ground.

HOCKS

The hocks are very important joints in the performance horse. They should be large, with a clean, well-defined look. Conformational defects of the hock include:

- bent or sickle hocks
- cow hocks
- bowed hocks
- straight through the hock.

Hind legs

FEET

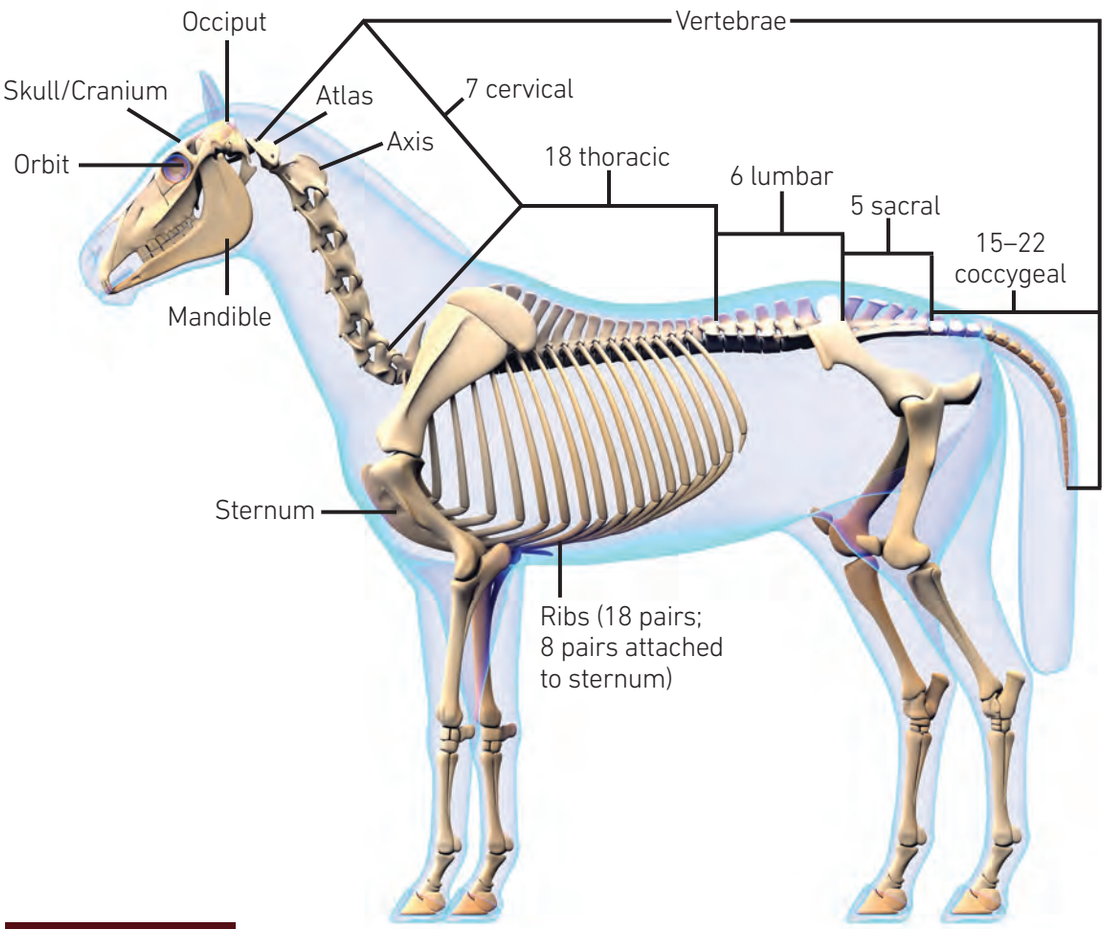
The feet should be a pair and point straightforward. The fore feet are more rounded than the hind feet. The heels should be wide, the frog large and full to absorb concussion and the sole slightly concave. Flat feet that are often larger than normal, very sloping with low heels are generally considered weak. Feet that turn inwards ('pin' or 'pigeon-toed') or outwards could result in uneven wear on the leg joints.

Fore foot

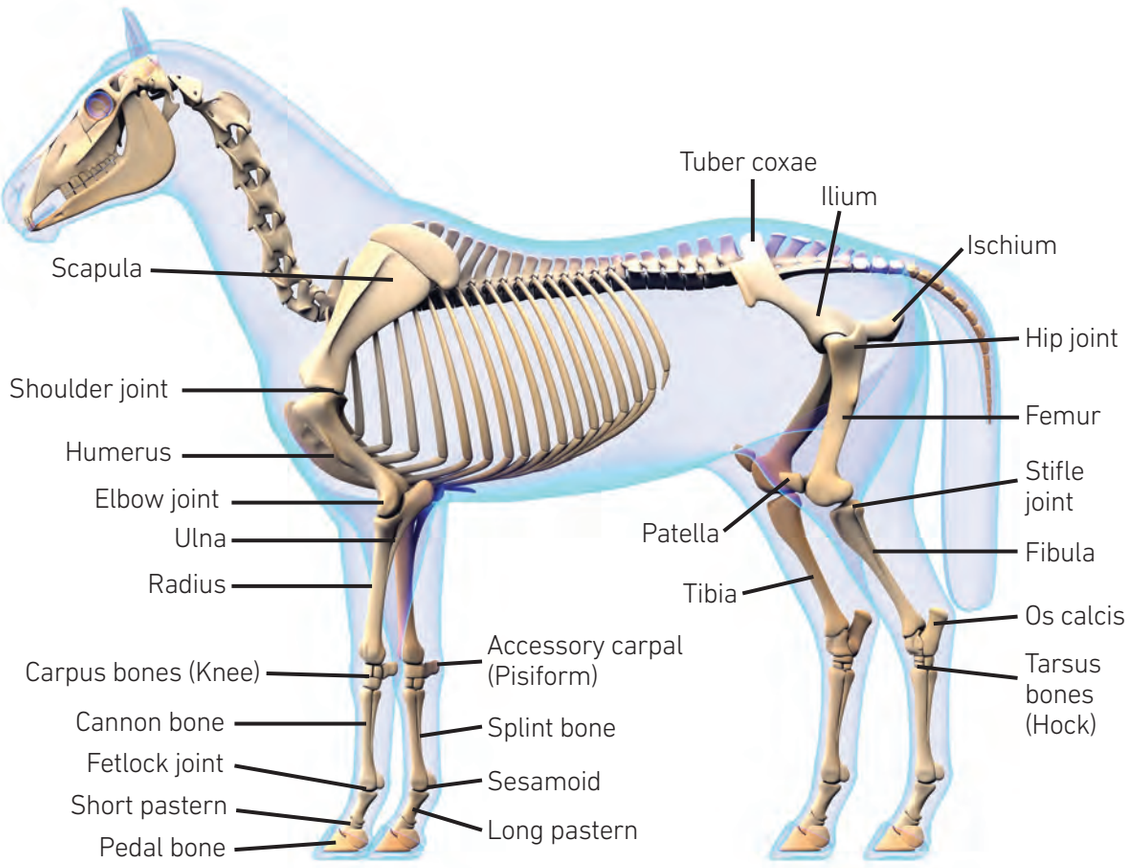
STRUCTURE OF THE HORSE

SKELETON

The horse's skeleton is made up of bones, cartilage, joints and ligaments. It comprises the axial portion, made up of the skull, backbone and ribs, and the appendicular portion, which is made up of the legs.



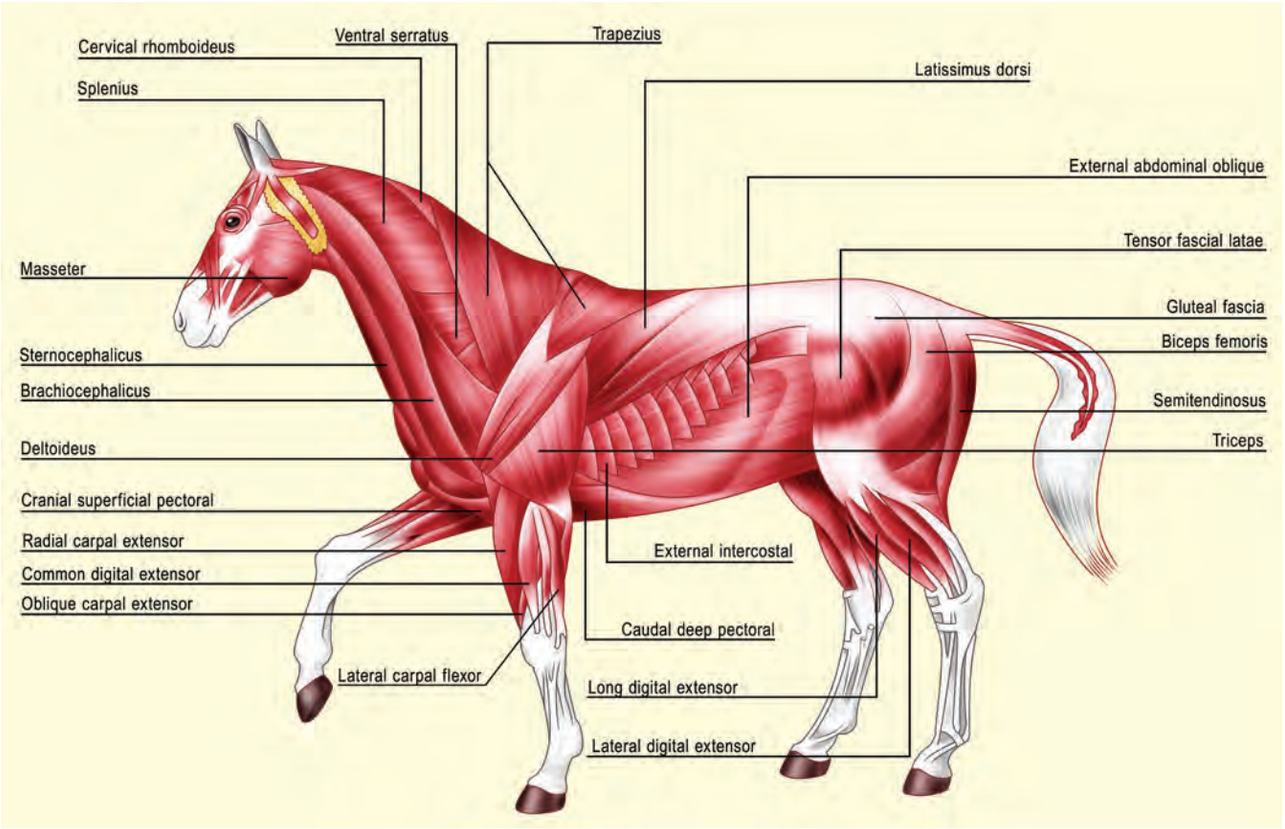
The axial skeleton



The appendicular skeleton

MUSCLES

Muscles are made up of thousands of fibres that flex and extend to provide movement. Each muscle is attached at one end to the skeleton and at the other end (normally by a tendon) to the part of the body it is responsible for moving.



BONES

Bones consist mainly of collagen, calcium and phosphorus. They are covered by a thin, tough membrane called the periosteum, to which tendons and ligaments are attached. Bones provide support and protection, with the marrow producing red blood cells.

JOINTS

Where two or more bones meet, a joint is formed. Joints enable the skeleton to move.

LIGAMENTS

Ligaments are rigid bands of fibrous tissue. They support and regulate the movement of joints by attaching bone to bone.

TENDONS

Tendons are cords made of fibrous tissue called collagen. They attach muscle to bone. Tendons have a relatively poor blood supply so if damaged, heal slowly and with difficulty.

STRUCTURE OF THE FOOT AND LOWER LEG

The conformation and structure of the foot and lower leg is particularly important in the performance horse that will be expected to undertake sustained periods of hard work.

STRUCTURE OF THE EXTERNAL FOOT

Wall – The insensitive outer horn covering the internal sensitive structures of the foot.

Sole – The lower surface of the foot, composed of similar horns to the wall.

Frog – The tough, elastic part of the lower surface of the foot. The frog has a number of important functions including:

- shock absorber
- anti-slip device
- assisting with the circulation of the blood
- support for the navicular bone and partial support for the pedal bone.

Bars – The continuation of the wall from the heel.

White line – The junction of the wall and the sole on the lower surface of the foot.

Periople – The thin varnish like horn covering and protecting the wall.

COMPONENTS OF THE INTERNAL FOOT

Horny laminae – Thin plates of horn positioned at right angles to the interior surface of the wall. These plates interlock with the sensitive laminae to secure the internal structures of the foot.

Sensitive laminae – The sensitive laminae is engorged with blood vessels and is the largest area of sensitive structure of the foot.

Coronary cushion – A vascular network that lays beneath the coronary band.

Bones – The foot contains the following three bones:

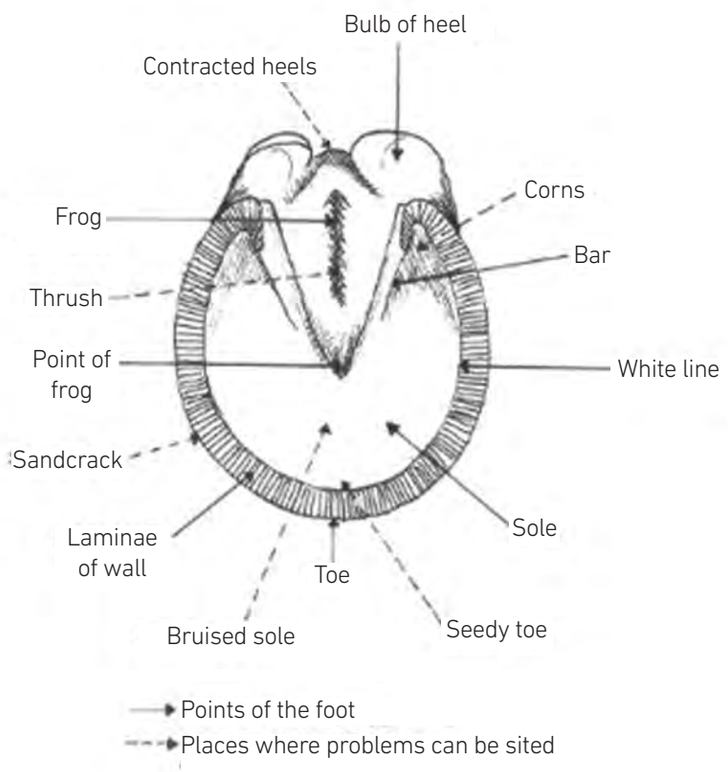
- pedal
- navicular
- short pastern (half inside and half outside the foot).

Tendons – The foot contains three tendons:

- digital extensor tendon
- deep digital flexor tendon
- superficial digital flexor tendon.

Lateral cartilage – There are two pieces of flat cartilage sited on each side of the foot and attached to the upper aspects of the pedal bone.

Plantar or digital cushion – This is a wedge-shaped mass of fibre-elastic tissue found in the area between the lateral cartilage and the wing of the pedal bone.



Sole of foot

LOWER LEG

The lower leg comprises the following bones:

- knee or carpal (made up of seven bones)
- cannon
- splints (there are two on each leg)
- sesamoids (there are two on each leg)
- long pastern
- short pastern.

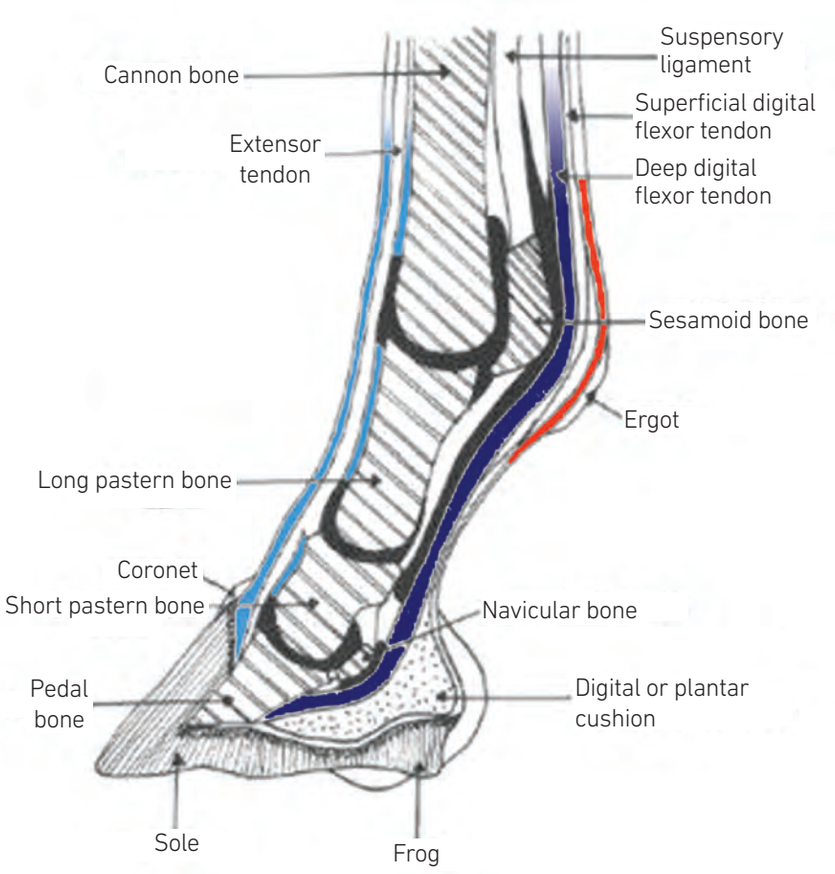
The bones of the lower leg are supported by the:

Suspensory ligament

This ligament comes down the back of the knee and runs against the cannon bone, down the back of the leg to the fetlock. Part of the suspensory ligament is then attached to the sesamoid bone and part divides into two and comes around the pastern from each side.

Tendons

There are two tendons running down the back of the leg called the superficial digital flexor and the deep digital flexor tendon, which has a check ligament. The extensor tendon runs down the front of the leg.



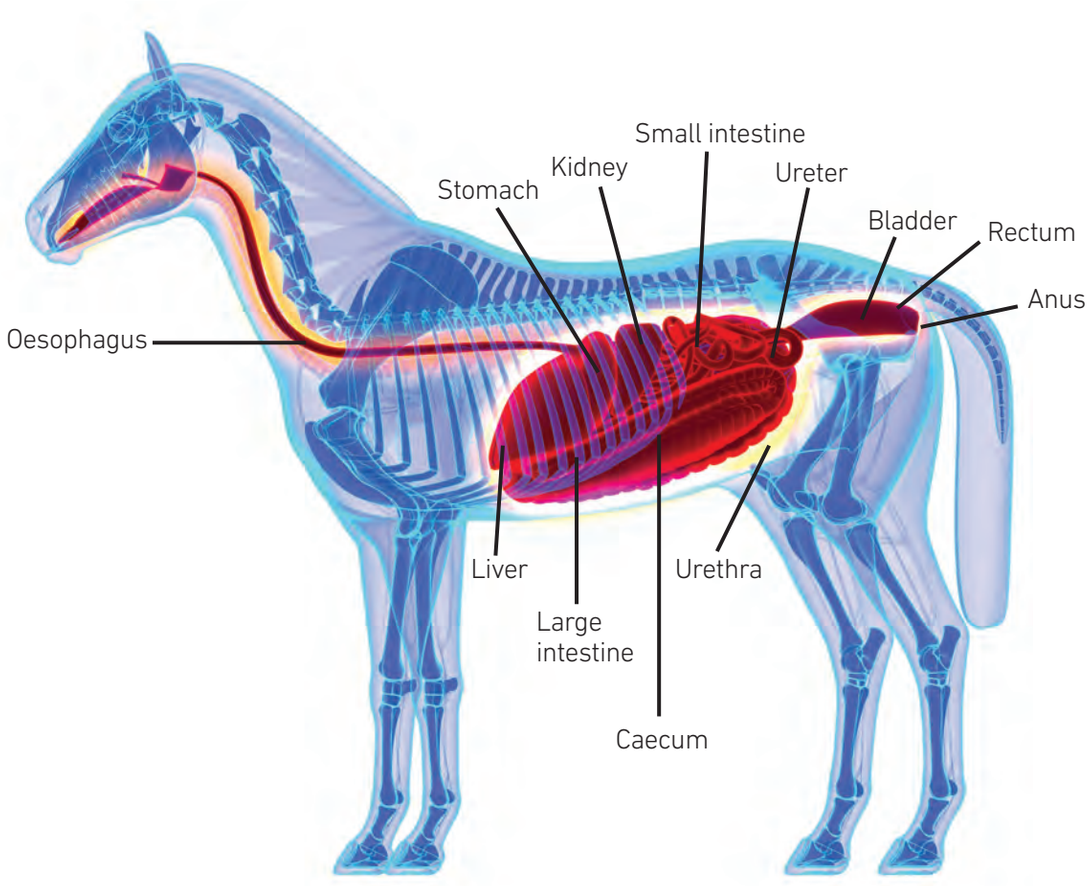
Structure of the lower leg

THE DIGESTIVE SYSTEM

The function of the digestive system is to take in food and extract the nutrients required by the horse for utilisation. Waste and superfluous matter is passed out in the form of droppings.

The alimentary canal is the general term for the tube that runs from the mouth to the anus and can be divided into seven major sections:

- mouth
- oesophagus (or gullet)
- stomach
- small intestine
- large intestine
- rectum
- anus.



The digestive and urinary system

The following briefly describes the functions of each of these sections:

MOUTH

Food taken in through the mouth and thoroughly chewed is mixed with saliva. Teeth should be maintained in good order so that food material is sufficiently broken down before entering the stomach. The mucus content of saliva lubricates the food ensuring an easy passage down the oesophagus into the stomach.

OESOPHAGUS (OR GULLET)

After sufficient chewing the horse swallows the food which passes down the oesophagus to the stomach. The oesophagus is a narrow muscular tube.

STOMACH

The stomach of the horse is relatively small with the capacity of 7–13 litres. The horse should therefore be fed little and often to avoid digestive upsets. Food normally remains in the stomach for up to 45 minutes.

SMALL INTESTINE

Food passes out of the stomach into the small intestine. The small intestine is where most of the enzymatic breakdown and absorption of the concentrated part of the horse's diet takes place.

Food material is moved along by contraction of smooth muscle in the gut wall. The waves of this muscular activity are called peristalsis. The total length of the small intestine is about 21 metres and it normally takes food about 60 minutes to travel along the small intestine to the large intestine.

LARGE INTESTINE

From the small intestine the undigested food and fibre enters the large intestine (which includes the caecum and colon) where bacteria continue the digestive process of protein, carbohydrate and fat. The bacterial content within the digestive system varies according to the nature of the diet – horse fed on grass have a different bacteria to those on a high concentrate diet.

If a diet is suddenly changed the digestive process is disrupted and the horse may suffer from colic, constipation or diarrhoea. In order to avoid such problems, changes to the diet should be made slowly over a period of time. This allows time for the bacteria to adapt to a different diet.

Stabled horses that have their food intake controlled can suffer from problems. Impaction may develop if they are allowed to eat large volumes of roughage in a short period of time or if their concentrate ration is not adjusted to their workload.

Water is absorbed as food passes through the large intestine.

RECTUM AND ANUS

The rectum is a short, relatively straight, passage connecting the small colon to the anus and digested residues from the food are stored in the rectum as faeces and are expelled via the anus.

THE RESPIRATORY SYSTEM

FUNCTION

The horse needs a constant supply of oxygen to stay alive. Respiration is the process by which the horse takes oxygen into its body and also gets rid of a waste product carbon dioxide. The horse has a system of respiratory organs to do this. It is vital for the racehorse's lungs to be operating at full capacity. The horse's resting respiration rate is 8 to 12 breaths per minute.

ANATOMY

The respiratory system consists of the airways of the head and neck and the lungs. The structures are the:

- nasal cavity
- pharynx
- larynx
- trachea
- bronchi
- lungs.

NASAL CAVITY

The nostrils are the entrance to the respiratory system. The horse can only breathe through its nostrils, not the mouth. The nostrils lead to the nasal cavity where the air that has been breathed in is warmed and filtered before passing to the pharynx.

PHARYNX

The pharynx is situated at the back of the throat that opens into both the mouth and the nasal cavity. At the bottom of the pharynx is the soft palate which is overlapped by the epiglottis. This overlap shuts off the mouth when the horse breathes in so that air can pass from the pharynx to the larynx. Sometimes this does not occur and the airway is blocked and the horse is said to have 'swallowed its tongue' and may wear a tongue strap.

LARYNX

This connects the pharynx and the trachea (windpipe). It contains the vocal cords that allow the horse to whinny. These are also the structures that can become paralysed and obstruct the horse's breathing, known as roaring, whistling or making a noise.

TRACHEA

This tube runs from the larynx to the lungs.

BRONCHI

In the horse's chest the trachea divides into two bronchi. Each bronchus enters one of the lungs.

LUNGS

The lungs occupy most of the horse's chest, allowing the horse to draw in a huge amount of oxygen when it is galloping. The bronchi subdivide many times until ending in minute sacs called alveoli, where the oxygen can pass into the bloodstream in exchange for carbon dioxide, a waste product of body metabolism.

RESPIRATORY DISEASE

Respiratory disease is a serious problem for the racehorse; even a mildly affected horse will perform below its best. Respiratory problems will affect the efficient performance of the lungs, especially at peak performance, when the horse uses five times more lung capacity that it does at rest. Viral infections, poorly ventilated stables, dusty or mouldy hay and a poorly planned exercise regime can all contribute to respiratory disease.

THE CIRCULATORY SYSTEM

FUNCTION

The circulatory system transports nutrients, oxygen and other materials to all the cells in the body. It also transports waste products so that they can be removed from the body.

ANATOMY

The circulatory system consists of the:

- blood
- heart
- arteries
- capillaries
- veins.

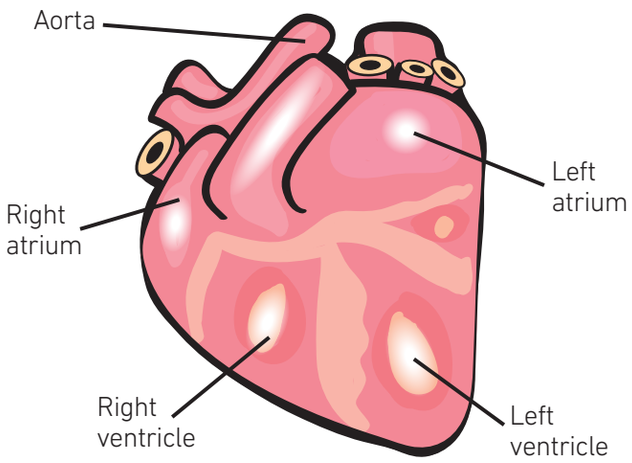
BLOOD

The blood is the body's transport system. It consists of plasma in which are suspended red cells, white cells and platelets. The blood carries nutrients, gases, hormones and salts in solution, reaching the whole of the body.

- Red cells carry oxygen and carbon dioxide
- White cells fight disease
- Platelets aid blood clotting.

HEART

The heart is a four-chambered pump that is central to the circulation of blood around the body. Blood that is rich with oxygen from the lungs enters the left side of the heart and is then pumped around the body. In the tissues oxygen is exchanged for carbon dioxide and returns to the right side of the heart. It is then pumped to the lungs where it gets rid of the carbon dioxide and takes on board more oxygen. The horse's resting heart rate is 36–42 beats per minute and can increase to 240 beats per minute when galloping. The heart rate can be taken using a stethoscope or feeling for the pulse where an artery is close to the skin, for example under the jaw.



The heart

ARTERIES

Arteries are the vessels that take blood away from the heart. They have thick, strong muscular walls. The artery leaving the heart to the body, carrying blood full of oxygen is called the aorta. This vessel can rupture under extreme pressure, resulting in death, sometimes referred to as a 'heart attack'. If a horse cuts an artery, bright red blood will spurt from the wound.

CAPILLARIES

Arteries give rise to smaller and smaller vessels, eventually resulting in capillaries. These tiny vessels are deep in the body tissues. This is where oxygen passes from the blood into the body, and waste products pass from the body into the blood.

VEINS

Capillaries converge to form veins that carry blood back to the heart. If a vein is cut, dark red blood will trickle from the wound.

DISORDERS OF THE CIRCULATORY SYSTEM

Heart abnormalities

Horses can develop heart abnormalities when the heart makes an unusual noise or beats unevenly. Known as arrhythmias or murmurs, these conditions can affect the optimum performance of the racehorse.

Blood tests

Horses perform best when the constituents of the blood fall within a normal range. Blood can change rapidly in response to disease, stress, muscle damage and dehydration. Regular blood tests are a useful way to assess health and to identify problems. Some yards routinely blood test horses to assess fitness and plan training programmes.

REVISION TEST

1. Take a picture of a horse on your yard and describe its conformation under the following headings:

   (a) head

   (b) neck

   (c) shoulder and wither

   (d) front legs and feet

   (e) body

   (f) hindquarters, hind legs and feet

2. List three conformational defects of the horse's knee.

3. Find a photograph of a horse and label it with the major bones and muscles.

4. On the photograph of the horse's leg below, label the following parts:

(a) knee	(b) cannon bone	(c) tendons	(d) fetlock joint
(e) forearm	(f) pastern	(g) elbow	(h) coronet band

5. What is the normal resting respiration rate of the horse?

6. Name three types of blood vessel.

7. What is the horse's normal resting heart rate?

THE HORSE IN HEALTH AND SICKNESS

This section is about promoting the type of care, environment and routine treatments that ensure that the horse remains healthy and content.

By studying this section you will have an understanding and knowledge of the health and well-being of horses, including:

- how to promote the health and well-being of horses to minimise stress and injury
- signs of health
- recognise when to call the veterinary surgeon
- taking the temperature, pulse and respiratory rates
- first aid procedures
- the contents of the first aid kit
- signs and treatments of common injuries and ailments
- isolation and sick nursing procedures
- care of the horse after specific treatments
- storage, use and disposal of medications and drugs
- routine preventative health care
- health care records
- managing the health, safety and welfare of people and horses.

Horse in good health

SIGNS OF GOOD HEALTH

It is important to recognise the signs of health so that any abnormalities are recognised immediately. Most stable staff will learn the characteristics of horses in their care and will know if all is normal. The following are indications of good health:

- eyes bright and alert
- standing and behaving normally – confidently, with an alert expression
- coat sleek and lying flat
- droppings normal and urine colourless or pale yellow and passed several times a day
- good appetite
- eating well and drinking normal amount of water; 8–12 (32–48 litres) gallons per day
- mucus membrane of eyes, gums and lining of nostrils should be salmon pink in colour
- no visible signs of sweating at rest
- temperature 99.5–101.3°F (37.5–38.5°C)
- pulse rate (heart rate) 36–42 beats per minute at rest
- respiratory rate (breathing) 8–12 breaths per minute at rest.

Alert expression

MAINTAINING GOOD HEALTH

To maintain a horse's health and condition any deviation from the signs of good health should be noted and either acted upon or reported to a supervisor. Whether a horse is stabled or living out it has the following needs:

- balanced diet
- clean fresh water
- suitable work and exercise
- safe environment and stabling appropriate to its work and needs
- regular dental care
- regular foot care
- routine preventative health care
  - faecal worm egg counts
  - tetanus vaccination
  - influenza vaccination.

WHEN TO CALL THE VETERINARY SURGEON

The partnership between the yard owner/manager and the veterinary surgeon is an important one. There are a number of situations when the professional assistance of a veterinary surgeon may be required.

HORSE HEALTH EMERGENCY

Immediate veterinary attention will be required for serious accidents, injuries and acute horse health problems. Conditions that require **immediate** veterinary attention include:

- azoturia or tying up
- colic
- choking
- difficulty in breathing
- tetanus
- severe blinking or discharge from the eye
- severe wounds
- severe lameness
- reluctance to move
- high temperature.

DIAGNOSIS AND TREATMENT

Veterinary advice should always be sought for ailments and lameness. Conditions that require veterinary attention but are not generally considered emergencies include:

- nasal discharge
- discharge from an eye
- cough
- abnormal breathing pattern (at rest or during exercise)
- depressed appetite/difficulty in eating
- weight loss
- excessive drinking and urinating
- diarrhoea or constipation
- excessive rubbing of mane and tail
- patchy hair loss/abnormal coat
- skin conditions
- lameness
- poor performance/exercise tolerance
- abnormal behaviour.

TAKING TEMPERATURE, PULSE AND RESPIRATION

TEMPERATURE

The normal temperature of a healthy horse is between 37.5 and 38.5°C (99.5–101.3°F). It is important to know the normal temperature of any individual horse.

The procedure for taking a horse's temperature is as follows:

- the horse should be held by an assistant
- using a digital thermometer, lubricate the bulb of the thermometer with petroleum jelly
- standing to the side of the horse lift the tail and gently insert the thermometer until it is two thirds inside the rectum
- tilt the thermometer so the bulb lies in contact with the rectal wall
- hold in that position for one full minute
- withdraw and wipe clean
- read
- clean with disinfectant before returning to its case.

Digital thermometers generally have an alarm that sounds once a constant temperature has been reached.

PULSE RATE

The pulse of a resting horse is between 36–42 beats per minute. It is the same as the heart rate and will increase:

- with excitement
- on exercise or exertion
- when the horse has a raised temperature or fever
- when the horse is suffering from acute pain or discomfort.

TAKING THE PULSE RATE

The easiest place to take a pulse is where the facial artery passes under the lower jaw. When taking a pulse:

- the artery can be felt by running the fingers along the lower edge of the jaw
- light pressure should be applied with the flat of the first three fingers
- locate the pulse and count the number of beats in a 15-second period
- multiply this number by four to obtain the horse's pulse rate.

The pulse rate may also be determined by using a stethoscope to listen to the horse's heart.


Taking temperature


Taking pulse rate

RESPIRATION RATE

The normal respiration of a horse at rest is 8–12 breaths per minute. The horse's breathing at rest should be barely noticeable, but the rate and/or depth will increase:

- with excitement
- on exercise or exertion
- when the horse has a raised temperature or fever
- when the horse is suffering from acute pain or discomfort
- in certain respiratory conditions, e.g. chronic obstructive respiratory disease (COPD).

The procedure for taking a horse's respiration rate is as follows:

- stand behind and slightly to one side of the horse and watch the flank rise and fall
- count the number of breaths taken in 30 seconds
- double this figure to find the breaths per minute.

FIRST AID PROCEDURES

Every yard should have an equine first aid kit. This should be kept in an accessible place such as the tack room or feed room. The kit should be complete, with up-to-date equipment and stored in a secure container.

The first aid kit should include the following equipment:

- blunt-ended scissors
- bowl
- cotton wool
- gauze
- non-stick wound dressings
- self-adhesive bandages
- tweezers
- antibacterial scrub
- wound gel
- ready-to-use poultice
- antiseptic cream
- thermometer.

As well as a first aid kit there should be a medicine cupboard. The contents are largely a matter of individual preference but items from the following list may be included:

- gamgee
- antiseptic spray
- petroleum jelly
- wormers
- cooling lotion
- fly repellent
- eye wash
- medicated shampoo
- Epsom salts
- surgical spirit
- poultice boot
- tubular bandage
- duct tape
- stable bandages
- hoof pick.

It is useful to have the telephone number of the veterinary surgeon easily identified on the medicine cupboard.

FIRST AID CARE

In the unfortunate incident of a horse health emergency, it is important to control the horse quietly but firmly. Obvious hazards or potential dangers should be removed to prevent further risk to horses or people. A calm atmosphere should be maintained with appropriate instructions being given to assistants. If a horse has suffered a direct injury, early control of the bleeding is essential, without contaminating the wound further.

To control bleeding a clean pad or non-stick dressing should be placed over the site of the wound. If the site cannot be bandaged, the pad should be held firmly in place until the bleeding stops or the veterinary surgeon arrives. If the blood soaks through the pad, another pad should be placed on top of the existing one.

Cold hosing

As soon as possible, the injury should be assessed and the veterinary surgeon should be called if any of the following are observed:

- the wound is large, deep or very dirty
- the wound exposes the tendon, bone or joint
- the bleeding cannot be controlled
- the horse is in pain or shock
- a foreign body is suspected in the wound.

If a horse has had a serious injury it may show signs of shock such as:

- trembling
- fast and shallow breathing
- low temperature
- faint pulse.

In this situation the veterinary surgeon should be called as soon as possible.

WOUNDS AND INJURIES

There are many types of wound and their management depends on an accurate assessment, initial attention and good aftercare. The size of a wound does not necessarily reflect its severity. In all cases check that the horse is vaccinated against tetanus.

Any wound close to a joint or tendon sheath may be life-threatening to a horse (no matter how large or small the injury is). It is therefore strongly recommended that a senior member of staff checks every wound.

CLEANING THE WOUND

If veterinary attention is not required, the following procedure should be followed:

- Restrain the horse in a clean, dry, well-lit area.
- Control the bleeding by applying pressure if necessary.
- With curved scissors, trim away the hair surrounding the wound.
- If the wound is very dirty it can be gently hosed. The water should not be directed into the wound, but allowed to run over the wound from above, so that dirt is not pushed further into the injury.
- Wash the wound with clean water and an appropriate diluted antibacterial solution. Soak small swabs of cotton wool in the solution to clean the wound. Discard each swab after use so that it does not contaminate the clean solution.
- A non-stick dressing and a bandage may be applied to protect the wound.

PUNCTURE WOUNDS

Puncture wounds are caused by objects such as a nail or a thorn and can be serious because the wound is often deep with only a small entry opening, making cleaning very difficult. If dirt is trapped inside the wound it is likely to become infected. It is generally advisable to seek veterinary attention with puncture wounds due to the high risk of infection. Management usually involves poulticing to draw out infection and allowing the wound to heal from the inside.

BRUISES (CONTUSED WOUNDS)

Caused by a blow, a kick or a fall, the skin is unbroken but heat, pain and swelling may be present. Depending on the site of the injury, bruises will normally benefit from cold hosing, poulticing or fomentation. Treatments will encourage an increased blood supply to the area to improve healing.

INCISED WOUNDS

An incised wound is a cut caused by a sharp object resulting in a wound with clean cut edges. Depending on the site of the incision, these cuts will often heal quickest, with reduced likelihood of scarring, if the edges of the wound are brought together using stitches or staples by a veterinary surgeon.

LACERATED WOUND

This is when the skin is ripped, for example by wire, and the wound has jagged edges. It is often difficult to stich this type of wound and they may take a long time to heal.

Lacerated wound

CONTROL OF PAIN AND SWELLING

Veterinary advice should be sought to control pain. The vet may advise a course of non-steroidal anti-inflammatory drugs that will help control both pain and inflammation. Soft tissue swelling should be controlled by either light exercise, if the injury allows, or support bandaging.

POULTICING

A poultice has two main properties. These are:

- to warm the affected part thus stimulating the blood supply; this increases the blood supply to the area and aids the healing process
- to draw pus, fluid and small foreign bodies from the wound.

Poultices are particularly effective for the following:

- dirty wounds
- infected wounds
- puncture wounds
- developing foot abscesses.

Commercially prepared poultices have now largely superseded traditional ones such as Kaolin or bran and Epsom salts; they are quick, clean and easy to apply. The procedure for poulticing is:

- the poultice should be soaked in boiled water that has cooled to hand hot temperature
- excess water should then be squeezed out and the poultice tested for temperature on the back of the hand
- the poultice is then placed in position and covered with plastic to keep it moist
- the plastic should then be covered with a thick layer of cotton wool or gamgee and bandaged in place
- the dressing should be changed every 12 hours. Poultice boots can be used to keep a foot poultice in place.

A poultice should never be used if there is a possibility of damage to the joint capsule. The poultice could draw out the joint fluid which could lead to further complications.

With any leg injury, a support bandage should be applied to the sound leg as this is likely to be under additional strain as weight is taken off the lame leg.

Poultice boot

FOMENTATION

This is a method of treating wounds that are difficult to poultice. It should be repeated several times a day and continued for about 15 minutes on each occasion. The procedure for fomenting is:

- prepare a bucket of hand hot water
- add a handful of Epsom salts
- soak a small towel or cloth in the water, wring out and apply the hot towel to the affected area for a couple of minutes
- keep repeating the process, maintaining an even temperature by topping up with hot water.


Fomenting

TUBBING

This process is particularly useful for a bruised foot or a foot abscess. The procedure for tubbing is:

- the hoof should be picked out and scrubbed clean
- a handful of Epsom salts should be added to a half-filled bucket of warm water
- the hoof should be placed in the bucket and kept immersed for 10 to 20 minutes
- more hot water should be added as the water cools
- the procedure should be repeated at least twice daily and the legs dried thoroughly afterwards.


Tubbing

BANDAGING

Bandages have a number of different uses including:

- warmth
- support
- control of swelling
- protection
- securing dressings.


Stable bandage

A bandage should give a light, even pressure; firm enough to hold a dressing in place but not so tight as to restrict the circulation.

Over-tight bandages can cause pressure sores or tendon damage. Loose bandages are ineffective and can be dangerous if they slip out of position. Important points when applying bandages are:

- Bandages should be applied over a layer of padding such as gamgee. This helps to distribute the pressure evenly.
- Creases or lumps in the padding should be smoothed out.
- Even pressure should be ensured by overlapping half the width of the bandage each time.
- Ties or Velcro fastenings on bandages should be laid flat and should be no tighter than the bandage.
- Knots should be tied at the side of the limb to avoid pressure on the tendons at the front and the back of the leg.
- If the horse is likely to bear less weight than normal on the injured limb, a support bandage should be applied to the opposite leg.

The knee and hock can be difficult places to bandage as the constant movement in the joints tends to loosen the bandage. It can then slip down the leg and cause uneven pressure. Figure-of-eight bandages can be used or tubular bandages secured above the knee or hock with Elastoplast. If a conventional bandage is to be used, care should be taken to avoid covering the bony prominences to prevent pressure sores.


Knee bandage


Hock bandage


Bib

Some horses will chew and remove bandages, possibly prolonging healing time and causing further injury. This problem may be overcome by putting a bib, cradle or muzzle on the horse, or by applying an unpleasant tasting material to the bandage. In an emergency the horse may be tied up.

SAFETY PROCEDURES

It is important to use and store veterinary medication and equipment safely. The following points should be considered:

- All veterinary medication and drugs should be kept in a secure place, for example in a locked cupboard.
- Medicines and drugs should be stored and used in accordance with the manufacturer's or veterinary instructions.
- All staff who are required to handle and/or administer drugs should be given appropriate information, instruction and training.
- Procedures identified in the COSHH assessment should be followed.
- Accurate records should be kept of all medications that are administered to horses.
- All syringes and needles should be disposed of in a 'sharps' bin. Any other form of disposal would present a hazard to staff.
- All out of date or unwanted medication should be disposed of safely.
- If a horse has to be X-rayed the veterinary surgeon or operator of the equipment is responsible for its safe use. Employers and staff should be aware of the dangers and ensure that only nominated staff that have been fully instructed and protected are permitted to assist in radiography work. The Ionising Radiation Regulation 1985 apply to the use of this type of equipment.
- Veterinary surgeons or farriers should only be assisted by fully trained, competent staff.
- Horses should be kept calm and adequately restrained during the administration of veterinary treatment.
- Adequate steps should be taken to prevent the transmission of zoonoses (diseases which can be passed from animals to humans).

RESTRAINING THE HORSE

There are a range of situations when it may be necessary to restrain a horse, including:

- veterinary treatment
- farriery
- covering
- clipping.

The horse should be handled firmly and quietly by an experienced member of staff. Where additional control is needed, or if it is anticipated that the horse is likely to be difficult, possible methods of restraint can include:

- use of a bridle rather than a headcollar
- holding up a front leg
- holding a fold of skin on the horse's neck
- using a twitch or the upper lip of the muzzle.

The handler should wear suitable clothing which may include:

- strong or safety footwear
- gloves
- protective headgear.

The minimum amount of force should be used and the horse kept as calm as possible in a quiet, secure area.


Twitch

LAMENESS

The normal action and gait of individual horses will vary considerably. Some will have a naturally short, choppy stride; others will have a loose, athletic movement. Lameness can be defined as any change from the horse's usual way of going. Lameness is usually a sign of pain and can be sudden in onset and severe, or gradual in onset, intermittent and mild.

When establishing the cause of lameness the following questions should be asked:

GENERAL

- How long has it been lame?
- How severe is the lameness?
- Has it been lame before?
- What was it doing when it went lame?
- Has the horse suffered a fall, kick or injury?
- When was the horse shod?
- When was the horse last worked and what type of work was it given?
- At what stage of the training programme is the horse?

EXERCISE

- What is the normal exercise routine?
- Have there been any changes to the exercise routine?
- Does the lameness improve or deteriorate with exercise?
- Does the lameness vary on different surfaces, for example soft or hard ground?
- Is the lameness worse when turning or circling?
- Are there any obvious swellings, injuries or wounds?
- If swelling is present does it improve or deteriorate with exercise?

STANCE

- Does the horse point or rest one foot more than others?
- Does the horse appear uncomfortable or shift its weight from one foot to the other?

EXAMINATION TO ESTABLISH THE CAUSE OF LAMENESS

OBSERVATION AT REST

Firstly, the horse should be observed at rest in the stable. The overall condition and stance of the horse should be checked for any obvious signs of pain.

TROTTING UP

Unless the source of pain is obvious, the horse should be walked and trotted up on a hard surface. The horse should always wear a bridle or chifney to ensure maximum control. The handler should stay level with the horse's shoulder and allow complete freedom of the head and neck. The horse should be observed moving directly away and towards, and from both sides.

Horses with fore limb lameness generally shift their heads up as the lame limb contacts with the ground. The head drops as the sound limb takes the weight. With hind leg lameness, the horse is generally better viewed from behind. The hip on the affected side rises and falls over a greater vertical direction. The hip on the opposite side may appear higher or lower, depending on the site of lameness.

Trotting up

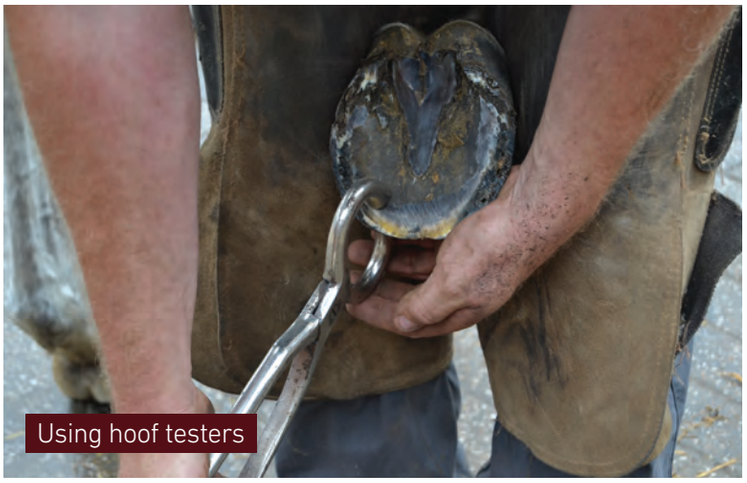
Flexion test

FLEXION TESTS

A flexion test may be performed after the trotting up. This involves picking up the affected limb and holding one or more joints for a period of one or two minutes. The horse is then moved straight into trot. Increased lameness for the first few strides suggests that the problem may lie in one of the flexed joints. The opposite limb should be flexed for comparison. It is important to know that older horses often show stiffness or slight lameness for the first few strides following flexion.

LUNGEING

Some types of lameness only become apparent when the horse is worked on a circle. In these cases the horse should be observed being lunged on a small circle, ideally on both a firm surface and a soft surface. Different surfaces will highlight different types of lameness.



Using hoof testers

EXAMINATION

Once the affected limb has been identified it should be examined closely and compared with the opposite leg. The leg should be checked for swelling, heat or pain and any muscle wasting should be noted.

Where appropriate the foot should be examined and compared with its opposite for heat, size and shape, wear on the shoes and other obvious defects. A thin layer of horn may be scraped away from the sole to check for bruises and punctures. Hoof testers may be applied all around the sole to test for any areas of particular sensitivity. The shoe may have to be removed should the presence of corns or bruising be suspected.

FURTHER EXAMINATIONS

When the cause of lameness is not revealed by the above examination, further tests by the veterinary surgeon may be necessary to establish and confirm a diagnosis. These tests may include:

- nerve blocks
- radiography
- ultrasound scanning.

AILMENTS OF THE FOOT AND LOWER LEG

There are many causes of lameness and this is a summary of problems commonly encountered. Some of the conditions do not always cause immediate lameness. It is therefore vital to be aware of the normal appearance and feel of a horse's limbs and to seek specialist advice if any change is noticed. In many cases, prompt veterinary advice can prevent a problem becoming more serious.

ABSCESS IN THE FOOT

A common cause of lameness is the build-up of pus in the foot, following penetration of the sole and entry of gravel or bacteria into the sensitive structures.

Signs

- Lameness, often severe
- Reluctance to bear weight on the affected foot
- Heat in the foot
- Bounding digital pulse
- Possible swelling of the lower leg area to the fetlock
- Possible discharge of pus from coronary band.

Treatment

- Call veterinary surgeon or farrier to locate and release pus
- Check tetanus vaccination status
- Clean whole of foot
- Tub foot
- Apply poultice
- Severe cases may require antibiotics/ pain relief, as prescribed by the veterinary surgeon.

Foot abscess

CORNS

Corns usually occur on the inner aspect of the horse's front feet and can be caused by:

- leaving shoes on too long
- unbalanced feet
- poor hoof conformation
- using shoes that are too small.

Signs

- Lameness, usually accentuated on a circle with the affected foot on the inside
- Horse reacts to hoof testers applied to the seat of corn
- When the shoe is removed and the hoof lightly pared a red area of bruising is usually visible.

Treatment

- Remove shoe
- Tub and poultice the foot
- Rest horse
- Harden the area before re-shoeing by applying antibiotic spray.

NAIL BIND

Caused by a nail pressing on sensitive laminae causing inflammation and pain.

Signs

- Lameness develops within 24–48 hours of shoeing
- Lameness
- Heat in foot.

Treatment

- Remove shoe
- Tub the foot
- Allow time for inflammation to settle prior to re-shoeing
- Prompt removal of shoe is important, the longer it remains the longer recovery will take.

THRUSH

Thrush is a foul smelling fungal infection normally affecting the frog. It can be caused by:

- poor stable management
- dirty bedding.

Signs

- Foul smell
- Black discharge from frog
- Lameness in severe cases.

Treatment

- Clean feet thoroughly
- Keep frog regularly trimmed by farrier
- Apply either antibiotic spray, Stockholm Tar or veterinary prescribed preparation
- Keep horse in dry, clean conditions.

BRUISED SOLE

Bruised soles are a common problem, particularly for horses with thin soles and flat feet. Causes include:

- treading on sharp object
- concussion from working on hard or uneven ground
- incorrectly fitting shoes
- unbalanced feet.

Signs

- Sudden acute lameness
- Lameness for a few strides after treading on a sharp object, with persistent lameness developing over the next few hours
- More lame on hard ground, less lame on sift ground
- Pain and sensitivity when affected area is squeezed with hoof testers
- Light paring of the sole exposing red areas of bruising.

Treatment

- Rest horse
- Remove shoe
- Tub foot
- Poultice
- Harden sole prior to re-shoeing
- A wide webbed shoe or protective pad may be used for horses with thin or recently bruised soles.

LAMINITIS

Laminitis is a painful condition where circulatory changes cause inflammation and congestion of the sensitive laminae of the feet. A number of different factors can cause laminitis and although it most commonly affects overweight ponies and horses it can affect any type of horse at any time of year. The causes include:

- access to lush or fast growing pasture
- over-feeding
- toxaemia from any condition where bacterial toxins are absorbed (i.e. retained placenta, severe colic or diarrhoea)
- concussion from fast exercise on hard ground
- excessive weight bearing on one limb (e.g. with a fracture, the supporting leg may develop laminitis)
- hormonal problems
- drug induced.

Signs

- Characteristic stance with forelegs stretched forwards and weight borne on heels
- Reluctance to move
- Heat in feet
- Increased pulse rate, temperature and respiration rate
- Bounding digital pulse
- Intermittent lameness on hard or uneven ground
- Laminitis rings and distorted hoof growth
- Sensitivity to hoof testers when applied to the sole of the foot.

Laminitic feet – before

Laminitic feet – after

Treatment

- Immediate veterinary attention
- Analgesic and anti-inflammatory drugs
- Drugs to calm horse and lower blood pressure
- Box rest initially
- Deep bed of shavings, sand or peat which can support the foot
- Feed according to veterinary advice, particularly with brood mares; normally concentrates and grass ration is eliminated
- Do not force the horse to exercise in early stages of treatment as this could cause further separation of the weakened laminae
- Attention from the farrier, who may recommend corrective trimming and shoeing
- Treatment for hormonal problems or Cushing's disease.

HOOF WALL CRACKS

Hoof wall cracks that begin at the coronary band are called sand cracks. Those that start at the ground surface are called grass cracks. Causes can include:

- irregular attention to feet and delays in trimming, allowing the hoof wall to spread and split
- poor conformation
- injury to the coronary band
- thin walls and dry brittle horn.

Signs

- Superficial cracks may not lead to lameness, but if the sensitive laminae are affected the horse may become lame
- In severe cases pus may exude from the base of the crack.

Treatment

- Immediate and regular trimming of the feet
- Shoe the horse to minimise the movement of the wall at either side of the crack
- Add supplement such as biotin to the diet to improve the quality of the horn
- Prevent feet from becoming excessively dry
- The farrier may make a horizontal, triangular or bar-shaped groove at the upper limit of the crack to prevent it extending.

NAVICULAR SYNDROME

Navicular Syndrome is an 'umbrella term' which covers multiple different pathologies that lead to a similar set of symptoms. Causes are thought to include:

- poor foot conformation with long toes and short heels
- poorly balanced foot
- concussion
- impaired blood flow to the area.

Signs

- Gradual onset of slight or intermittent lameness
- Lameness improving with exercise
- Short pottery gait
- At rest the horse may point a toe or shift the weight from one foot to the other
- Diagnosis is made by use of nerve blocks and radiography. The condition normally affects both front feet but may be more advanced in one than the other.

Treatment

- Veterinary prescribed drugs
- Corrective farriery.


Splint

SPLINTS

A splint is a bony enlargement of a splint bone. Causes include:

- excessive work on hard ground
- a direct blow to the splint bone
- poor conformation
- faulty trimming and shoeing.

Signs

- Heat, pain and swelling over the splint bone
- Variable degrees of lameness.

Treatment

- Cold treatment
- Rest
- Non-steriodal anti-inflammatory drugs.

TENDON AND LIGAMENT INJURIES

Injuries occur when the tendon or ligament is over-stretched, leading to inflammation and disrupting the normal alignment of the collagen fibres. Causes include:

- poor conformation
- fatigue
- working at speed on hard, uneven ground.

Signs

- Signs vary according to the severity of the injury
- Heat, pain and swelling in the tendon
- Reluctance to bear weight on affected limb
- Lameness
- It is possible for a horse to have a significant degree of tendon damage without being lame.

Treatment

- Follow veterinary advice
- Relieve the pain
- Reduce the swelling and inflammation
- Cold therapy
- Support bandaging of both limbs
- Box rest followed by light controlled exercise
- Long period of rest
- Tendon and ligament healing is a very slow process and horses may be prone to further problems.


Ringworm


Mud fever

SKIN CONDITIONS

Most skin diseases are not serious and are straightforward to treat. Some conditions are contagious and can spread to other horses and people.

RINGWORM

Ringworm is a fungal infection of the skin.

Signs

- Hair loss, generally in circular tufts
- Hair stuck together by crusts of exudate exposing scabs that may exude serum
- Lesions become dry and scaly.

Treatment

- Isolate
- Keep equipment and tack away from other horses
- Follow disinfecting procedures
- Treat with topical or systemic medication prescribed by the veterinary surgeon
- Must be examined by the yard veterinary surgeon and accompanied by a certificate of non-contagiousness if the horse is to go racing before the hair has grown back.

MUD FEVER AND RAIN SCALD

These skin infections usually seen in horses kept at grass and accentuated by prolonged rain and poor weather conditions.

Signs

- Large tufts of hair become matted and come away from the skin
- Skin may exude serum or become dry and flaky
- Severe cases can become infected and cause lameness.

Treatment

- Seek veterinary advice as severe cases may require antibiotics
- Tease off scabs
- Clean affected area with antibacterial wash
- Stable in poor weather conditions
- Where appropriate, clip long hair and feathers.

SWEET ITCH

Sweet itch is an allergic skin condition; affected animals are hyper-sensitive to midge bites and rub their manes, tails and quarters. It is more commonly found in ponies.

Treatment

- Reduce exposure to midges, for example stable at dawn and dusk
- Relieve the irritation and itching
- Use a rug that covers as much of the head and body as possible
- Monthly vaccination to support the immune system.

COLIC

Colic is the name given to a variety of conditions in which the horse suffers abdominal pain. The condition can vary widely in severity and in most cases the horse recovers without complications if correctly treated. Causes include:

- worm damage
- neglected teeth causing poorly chewed food
- unsuitable diet
- sudden changes in diet
- long drink of cold water immediately after work
- hard exercise immediately after feeding
- eating straw bedding
- crib-biting or windsucking.

Signs

- Loss of appetite
- Pass fewer droppings than normal
- Quiet and lethargic
- Looking at its flanks, kicking at its belly, or pawing the ground
- Patchy sweating
- Attempts to lie down and roll
- Fast, shallow breathing
- Spasms of severe pain causing violent rolling or groaning
- Distension of the abdomen
- Increased pulse rate.

Treatment

- The veterinary surgeon should be called immediately
- Remove food but allow access to clean water
- Walk the horse when it is safe to do so
- The vet may give the horse:
  - pain killers
  - sedatives
  - liquid paraffin
  - anti-spasmodic drugs
- Severe cases may require surgery.

Good stable management can reduce the risk of colic occurring. Points to consider include:

- appropriate worming strategy
- feed only good quality food
- make only gradual changes to the diet
- allow sufficient time between feeding and exercising.


Strangles

STRANGLES

Strangles is a highly infectious and contagious disease affecting the upper respiratory tract, caused by a bacteria *Streptococcus equine*. Vaccination is not mandatory for racehorses in the UK. This:

- decreases the severity of the disease in affected horses
- reduces the risk of an outbreak occurring
- reduces the spread of the disease in the event of an outbreak.

Signs

- High temperature
- Nasal discharge
- Soft, moist cough
- Increase in respiratory rate
- Dullness and lethargy.

As the disease progresses:

- Nasal discharge becomes thick and yellow.
- Abscesses form in the lymph nodes under the throat and at the back of the larynx.
- Abscesses are warm, hard and extremely painful.
- Breathing may become difficult.
- Swallowing is uncomfortable, leading to loss of condition and depressed appetite.
- Over a period of time the abscesses increase in size and become softer. They eventually burst to release a large amount of pus.
- When the abscesses burst the pain is relieved and the horse will start the recovery process.

Treatment

- Isolate
- Call vet
- Soft, palatable food and soaked hay
- Change water frequently and keep buckets clean
- Warm poultices or hot fomentation to speed up the build-up and rupture of the abscesses
- Anti-inflammatory drugs to reduce temperature and ease the pain
- Antibiotics are not normally used once the abscesses have formed as they can delay the build-up and rupture of the abscesses and therefore prolong the course of the disease.

ISOLATION PROCEDURES

- All affected horses should be isolated.
- Protective clothing such as boots, gloves and overalls should be worn to prevent the spread of infection.
- A bucket of disinfectant and brush should be left outside each stable in order to clean boots when leaving the box.
- All feed and water utensils should be kept separate.
- All bedding, discharges and left over feed should be burnt.
- Rugs and headcollars should be cleaned and disinfected.
- The stable should be disinfected once the horse has recovered.
- Affected horses should not be turned into paddocks shared by healthy animals as bacteria from the nasal discharge will remain infectious for at least four weeks.
- Hygiene measures should be continued for a month after the abscesses have ruptured as the horse may still harbour the bacteria. This would cause further contamination of facilities and equipment.
- Horses should be rested for at least 10 days after the abscesses have healed and the return to fitness should be gradual.

EQUINE INFLUENZA

Equine influenza is an infectious respiratory disease; it is caused by several strains of the influenza virus and spreads rapidly from one horse to another. Vaccination is mandatory for racehorses in the UK.

Signs

- Temperature of 39–41°C (103–106°F) which lasts for up to four days
- Nasal discharge
- Harsh, dry cough
- Enlarged glands under the lower jaw
- Loss of appetite
- Depression
- Conjunctivitis
- Symptoms may last for up to three weeks
- Vaccinated horses may suffer a milder form.

Treatment

- Well-ventilated dust-free environment
- Rest
- Call the veterinary surgeon who may prescribe any of the following drugs:
  - antibiotics
  - mucolytic drugs which reduce the viscosity of the mucus
  - bronchodilators which relieve spasm of smooth muscle in the walls of the airways
- Strict hygiene and isolation regime.

Nasal discharge

EQUINE HERPES VIRUS

This is a highly infectious disease, of which there are several types. These include:

- Type 1 (EHV-1) causes abortion, respiratory disease and neurological disease
- Type 2 (EHV-2) causes mild respiratory signs in foals
- Type 3 (EHV-3) causes coital exanthema, a venereal disease causing watery blistering on the penis and prepuce of the stallion, the vulva and perineum of the mare
- Type 4 (EHV-4) causes respiratory disease. EHV-4 also causes abortion.

Signs

The following signs are common to both EHV-1 (respiratory form) and EHV-4:

- high temperature
- loss of appetite
- nasal discharge
- depression and lethargy
- swollen glands
- coughing.

Additional possible symptoms associated with EHV-1 include:

- swelling of throat, neck and lower legs
- abortion, normally between 8–11 months
- birth of weak foal which does not normally survive more than a few days
- lack of co-ordination or paralysis, incontinence.

Treatment

- Call the veterinary surgeon
- Diagnosis is therefore made on:
  - culture of the virus from either swabs or blood samples
  - blood tests to demonstrate a 'rising titre' (increased antibody level)
  - characteristic changes in the liver of aborted foetuses
- Fresh air
- Complete rest
- Antibiotics, mucolytics and bronchodilators as necessary.

VACCINATION

A vaccine is available which is active against the abortion form of the disease. Pregnant mares may be vaccinated during months five, seven and nine of the pregnancy.

COURSE OF ACTION WHEN A MARE ABORTS

Whenever a mare aborts or a foal dies within 10 days of birth, the cause should be investigated. Early detection of EHV-1 is especially important if the mare is in contact with other pregnant mares. If the situation arises:

- contact the veterinary surgeon immediately
- isolate the mare in a stable
- put the foetus and membranes in a leak-proof container
- disinfect any areas likely to be contaminated by foetal fluids
- the foetus and membranes should be sent to a laboratory for examination
- in-contact mares should be managed as though infected until the results are available
- no horses should be moved onto or off the premises until EHV-1 infection has been ruled out.

EQUINE VIRAL ARTERITIS (EVA)

Equine Viral Arteritis (EVA) is a venereal disease and can cause abortion in affected mares.

Signs

- Fever
- Depression
- Loss of appetite
- Colic
- Scrotal, mammary or limb swelling
- Stiff action
- Skin rashes.

Treatment

- Seek veterinary advice
- Laboratory diagnosis is by virus isolation from swabs
- Rest
- Antibiotics
- Mucolytics and bronchodilators.

AZOTURIA OR 'TYING-UP'

This is a condition where muscles seize up and the horse experiences painful cramp-like symptoms. The muscles of the loins and quarters are the most commonly affected. Causes are thought to include:

- over-feeding of carbohydrates
- vitamin and mineral deficiencies
- electrolyte imbalance and dehydration
- inadequate blood supply to the muscle fibres.

Signs

- Signs characteristically occur within 10–15 minutes of start of exercise
- Excessive sweating
- The horse becoming alarmed with an increasing reluctance to move forward
- Rise in respiration rate
- Increase in heart rate
- Slight increase in temperature
- Signs of mild colic
- Repeated attempts to urinate
- Urine varying in colour from normal through reddish brown to dark brown according to the degree of muscle damage
- The horse resenting pressure on the gluteal and lumbar muscles which may appear swollen and appear hard to touch.

Horse on drip after suffering from azoturia

Treatment

- Stop the horse as soon as the gait begins to alter. Forcing the horse to move will only increase the muscle damage
- Put rugs over the horse's back to keep it warm
- Arrange transport home
- Rest the horse
- Reduce the diet
- Call the veterinary surgeon who will:
  - minimise the pain
  - restore fluid and electrolyte balance
  - take blood samples
- Reintroduce work gradually and with veterinary advice
- Feed a well-balanced diet
- Reduce the rations the night before and on a rest day, or if the horse is off work for any other reason
- Avoid sudden changes in diet
- Feed electrolytes.

Fitness training programmes must be carefully planned so that the demands on the horse are increased gradually. The following points should be considered:

- avoid making sudden changes to feed or duration of exercise
- implementing fitness programmes gradually
- always warming up the horse before commencing fast work
- avoiding short bursts of fast exercise until the horse has been well prepared
- using an exercise sheet to keep the horse warm in wet or cold weather
- avoiding long periods of confinement in the stable wherever possible
- turning the horse out on his rest day or leading out in hand wherever possible
- exercising twice daily.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Chronic Obstructive Pulmonary Disease (COPD), also known as Heaves or Recurrent Airway Obstruction (RAO), is an allergic condition caused by the horse being exposed to fungal spores and stable dust.

Signs

- The disease usually develops over a period of time
- Affected horses often appear well but have a reduced exercise tolerance
- Increased respiratory rate
- Increased expiratory effort
- Cough at rest or at the start of exercise
- White nasal discharge, especially after exercise.

As the disease progresses:

- expiration (breathing out) requires considerably more effort, leading to considerable movement of the abdominal muscles and the development of a 'heaves line'
- thick, yellow nasal discharge
- increased coughing throughout exercise
- coughing up lumps of mucus.

Treatment

An important feature of treatment is the provision of a dust-free environment, including:

- maximum turn out
- well-ventilated stables
- dust-free bedding
- soaked hay or haylage.

Veterinary treatment may include:

- bronchodilators to prevent the spasm of smooth muscles in the wall of the airways
- mucolytics to reduce the viscosity of the mucus and help to mobilise it from the lower airways
- antibiotics if a secondary infection is suspected.

PARASITES

Internal parasites are known as worms and can cause a variety of symptoms ranging from loss of condition to death. Effective control is a combination of:

- faecal worm egg counts
- strategic use of anthelmintics (wormers)
- pasture management.

Signs

A table of some of the common equine worms and the symptoms they cause:

	Large Redworm	Small Redworm	Roundworm	Tapeworm	Threadworm	Pin-worm	Lungworm	Bots
Adult Size	1.4–2.4	0.4–2.6	15–50	Up to 8	Up to 0.9	0.9–1.5	3.6–6	1.8
Host Age Group Affected	All ages	All ages	Mostly under 3 years	All ages	Foals	All ages	All ages	All ages
Range of Clinical Signs	Anaemia Anorexia Weight loss Poor Performance Reduction of growth rate Rough coat Diarrhoea Colic Death	Anaemia Anorexia Weight loss Diarrhoea Colic Death	Anorexia Ill-thrift Pot belly Emaciation Diarrhoea Colic Bowel obstruction Coughing Nasal discharge	Often no clinical signs in large numbers may cause intussusception and death Increased respiratory rate	Weight loss Ill-thrift Diarrhoea	Intense anal irritation Tail rubbing	Chronic cough especially during exercise Nasal discharge	Gastric ulceration

Although symptoms may indicate worm infestation, an accurate diagnosis can only be made by a laboratory examination of faeces for worm eggs.

Treatment

It is important to avoid the overuse of wormers to prevent worms becoming resistant to the chemical in the wormer. It is recommended that there should be a change to a chemically unrelated group every 12 months in order to avoid parasites building up a resistance to one wormer.

ROUTINE WORMING PROGRAMME

It may not be possible to collect faecal samples from horses. In which case, a routine worming programme may be used:

- From one of the drug group listed, choose a wormer and use it throughout the year at the recommended intervals:
  - avermectins e.g. ivermectin or moxidectin-based wormers
  - pryrantel-based wormers
  - benziamadazoles
- Treat for tapeworm in spring and autumn
- Treat for encysted small redworm larvae between November and January
- Check the effectiveness of the programme by having a faecal worm egg count carried out two weeks after worming.

STRATEGIC WORMING

- Only worm if the faecal worm egg count is greater than 200 eggs per gram.
- If the egg count is high, the horse is wormed and a further egg count done when the horse is next due a wormer.
- If the egg count is low, the horse is not wormed and a further egg count carried out 12 weeks later.
- Worm as normal spring and autumn for tapeworm, or use blood samples to detect tapeworm infection.
- Worm as normal between November and January for encysted small redworm larvae (Equest or a five-day course of Panacur Guard).

NEW HORSES

- Worm all new horses when they arrive on the yard.
- Ideally do not turn out to grass for seven days to prevent them infecting the paddock with worm eggs.

PASTURE MANAGEMENT

- Every horse in the field must be wormed at the same time.
- Pick up droppings at least twice a week.
- Rotate paddocks, ideally allowing paddocks to rest for three months.
- Graze with cattle or sheep.

WORMING FOALS

- Worm at two and six weeks of age with Panacur paste if the foal is at high risk of worm exposure.
- Worm at 12 weeks of age if the foal is at low risk.
- Tapeworm treatment should only be necessary in the foal's first autumn.

REVISION TEST

1. Describe the process for taking the temperature, pulse and respiration of a horse and state the normal rates of each for a horse at rest.

2. Describe the action to be taken when treating the following injuries:

   (a) Bruised foot

   (b) Incised wound

   (c) Puncture wound.

3. Describe the cause, signs, treatment and management of the following conditions:

   (a) Colic

   (b) Laminitis

   (c) Azoturia or tying up

   (d) Equine influenza.

4. Describe the purpose and process of the following:

   (a) Tubbing

   (b) Poulticing

   (c) Fomenting.

5. List six occasions when it is necessary to call a veterinary surgeon.

6. Describe the worming regime in your yard. What records are kept?

7. Describe three occasions when you have had to care for a horse suffering from injury or ill health. Include information on:

   (a) condition

   (b) exercise

   (c) treatment

   (d) aftercare.

8. Describe first aid arrangements for horses in your yard, including:

   (a) location of first aid equipment

   (b) contents of first aid box

   (c) security arrangements.

9. Describe the action you would take and the likely condition of a horse showing hair loss in small circular patches.

10. What principles should be applied when isolating a sick horse?

CLIPPING AND TRIMMING

This section is about clipping and trimming horses.

By studying this section, you will have knowledge and understanding of:

- reasons for clipping
- preparation for clipping, including facilities and equipment
- how to restrain horses during clipping
- types of clip
- how to clip effectively and safely
- care of horse and equipment after clipping
- trimming procedures.

CLIPPING

Most racehorses in medium to hard work are clipped during the winter months for the following reasons:

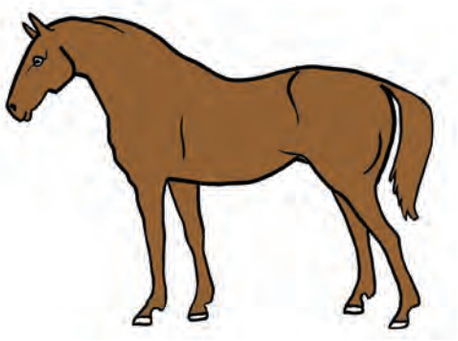
- to enable the horse to undertake strenuous work without loss of condition
- to allow the horse to work longer and faster without distress
- to improve appearance
- to facilitate grooming
- to help the horse to dry more quickly, avoiding chills.

The first clip of the season will normally be carried out as the horse's winter coat becomes established. Depending on how quickly the coat grows further clips will normally be required, sometimes as regularly as once a month. Sufficient warm rugs will discourage further, excessive winter hair growth.

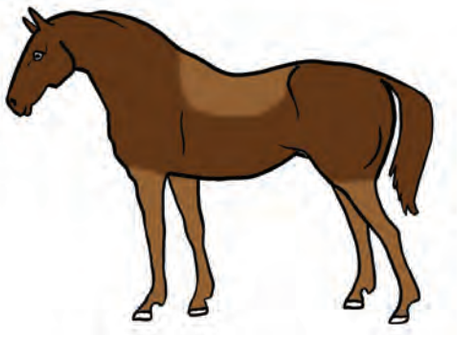
TYPES OF CLIP

There are a range of recognised clips in general use; often these are adapted to suit particular requirements. The main types are:

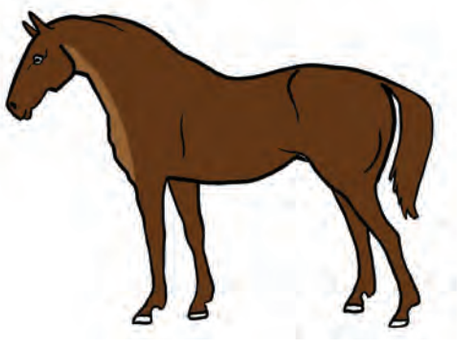
- Full – All the hair is removed, including from the legs. This type of clip is rarely used on a Thoroughbred due to their fine coat.



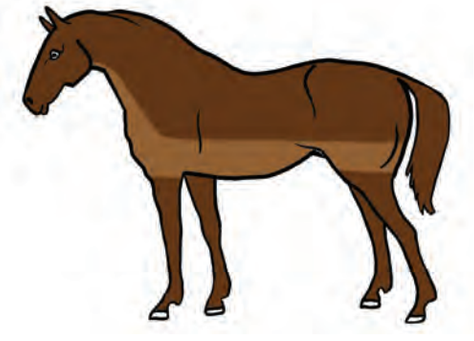
- Hunter – All the hair is removed except from the legs and saddle patch. A typical clip used in racing yards.



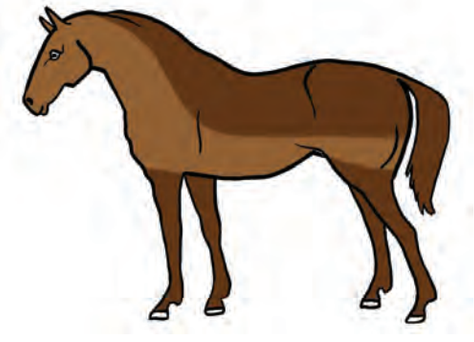
- Bib Clip – As the most basic type of clip, the bib clip removes only a small amount of the hair from the front of the neck and chest.



- Trace Clip – The hair is removed from the lower neck and belly – suitable for horses in light to moderate work.



- Chaser Clip – The hair is left on the upper neck and back to keep those muscle areas warm.



Suitably dressed for clipping

Starting at the shoulder

CLIPPING EQUIPMENT

The following equipment is required for safe and effective clipping:

- clippers (in good condition and regularly serviced)
- sets of sharp spare blades
- lubricating oil
- circuit breaker
- extension lead
- cleaning brushes and cloths
- twitch
- rugs.

An assistant should be available throughout the clipping process. Staff involved should wear old clothes, overalls and sturdy footwear.

It is advisable for the assistant to wear a skull cap as horses can be anxious and unpredictable when being clipped. Some yards have stocks to contain the horse, which provides an added security measure.

CLIPPING PROCEDURE

The following procedure should be followed:

- Prepare clipping area or if using a stable, remove water buckets and most of the bedding, leaving sufficient to ensure a non-slip surface.
- Set up clippers and circuit breaker.
- Ensure horse is dry and clean.
- Mark lines with soap or chalk (many people with significant experience of clipping may be able to clip the lines without pre-marking).

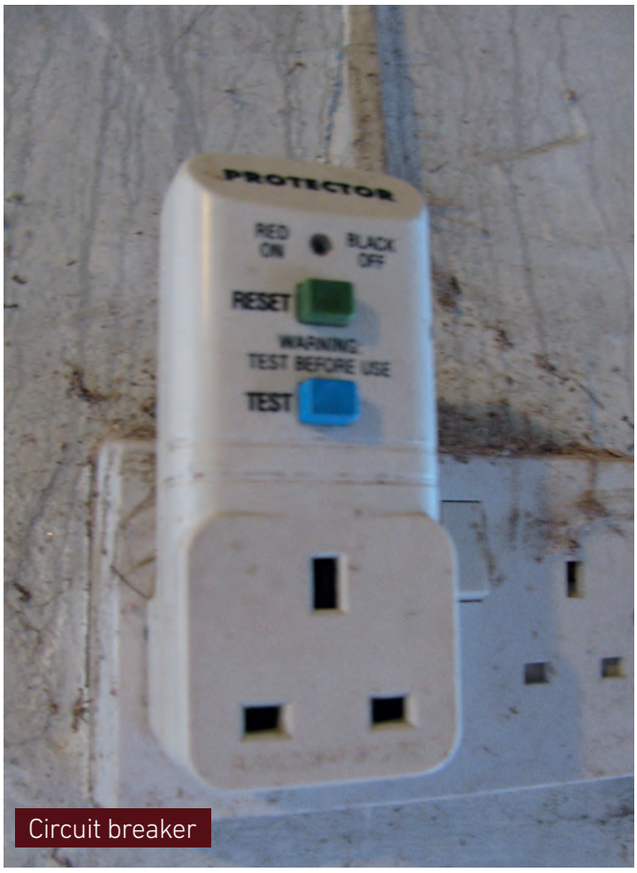
- Ask assistant to hold horse in a safe manner and position.
- Allow horse to become accustomed to the noise of the clippers.
- Adjust tension of clippers if required and ensure the lead is out of the way of the horse.
- Clip coat, starting at the shoulder, clipping against the lie of the coat.
- Do not push or force clippers and take as much in one sweep as possible.
- Leave the head and difficult bits to last.
- Apply a twitch only if absolutely necessary, as twitching may have the effect of making the horse sweat, making clipping impossible.
- Put rugs on the horse's quarters whilst clipping the head and neck.
- Oil and clean clippers regularly and check to ensure they are not over-heating.

CARE OF HORSE AND EQUIPMENT AFTER CLIPPING

After clipping, the horse should be brushed off and wiped over with a warm, damp cloth to remove excess hair. Rugs should be applied to prevent the horse from getting cold. The floor and surrounding area should be swept and tidied with clipped hair being disposed of safely.

The clipper blades should be removed, cleaned and oiled, and sent for sharpening if required.

The clipping machine should be cleaned and stored in a dry place. It should be serviced regularly.



Circuit breaker

Oiling clippers

Pulling a mane

METHODS OF RESTRAINT

A horse that is nervous or fidgety should be restrained to ensure the safety of those clipping, and the horse itself. By selecting the most appropriate method of restraint the horse should become more relaxed and confident, which should in turn lead to it becoming easier to clip in future. The following are the most commonly used methods:

- sedatives (veterinary supplied/ administered – either oral or intravenous)
- holding up a front leg
- grasping a large fold of skin on the horse's neck
- applying a twitch.

TRIMMING

PULLING A MANE

Racehorses generally have a pulled mane, although tails are left full.

The reasons for pulling a mane are to:

- thin an over-thick mane
- shorten the mane to improve the appearance
- make plaiting easier
- help the mane lie flat.

The following procedure is recommended when pulling a mane:

- Ideally pull the mane after exercise or on a warm day, when the pores of the skin are open and the hair can be removed more easily.
- Clean and comb the mane to remove tangles.
- Using a metal mane comb, separate a few hairs from the underneath of the mane and run the comb up to the roots. Wind the hairs around the comb and pull them briskly out. The procedure is normally started at the bottom of the mane, but this is personal preference.

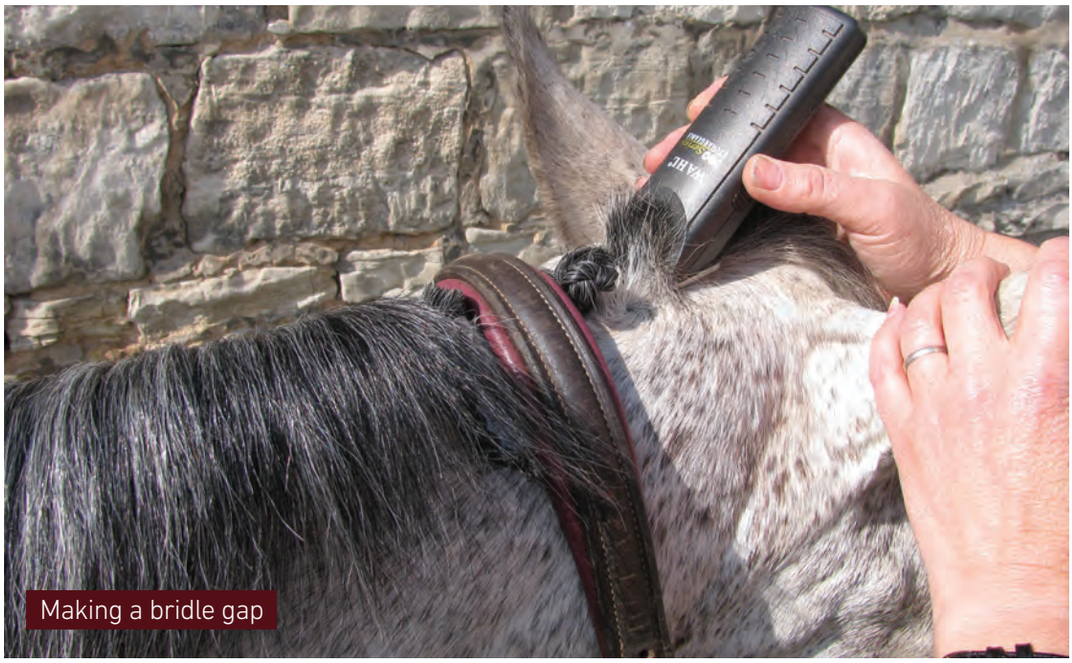
- Repeat the process until the mane is the desired thickness and length. It should be neat and short enough to plait.
- Pull the forelock last.

A bridle gap or bridle path may be made by clipping or cutting away two or three inches at the top of the mane where the bridle lies.


Neatly pulled mane

TRIMMING A TAIL

A long tail collects mud and looks unsightly. The tail is normally cut a few inches below the point of hock (according to the yard practice and employer's preference).


Making a bridle gap

WORKING SAFELY WHEN CLIPPING AND TRIMMING

It is extremely important to ensure that correct safety procedures are followed when clipping and trimming horses. Circuit breaks are crucial, and must be tested properly before use. Water buckets should be removed from the clipping area. Suitable protective clothing should be worn by the person clipping, and their assistant.

Horses can be anxious and unpredictable when being clipped or trimmed, so the most appropriate method of restraint and an experienced assistant are essential, particularly with nervous or inexperienced horses.

REVISION TEST

1. List FOUR reasons why horses are clipped.

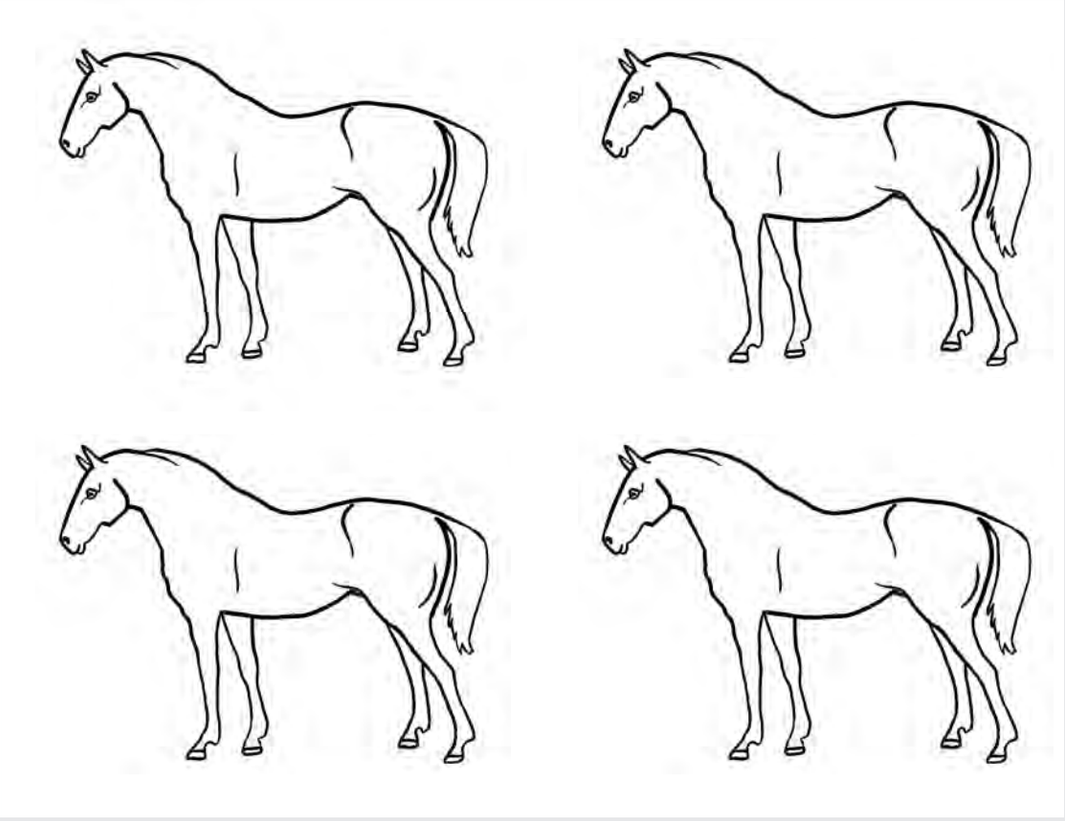
2. On the diagrams below, draw the lines that the following clips would follow:

   (a) hunter

   (b) blanket

   (c) trace

   (d) chaser.



3. Choose the correct word from the box to complete the sentences:

Circuit breaker	against
shoulder	
last	front

(a) The horse's _____ is a good place to start clipping.

(b) A _____ should always be used when clipping.

(c) The horse's head should be clipped _____

(d) One way of restraining a horse is to hold up a _____ leg.

(e) Clipping should be done _____ the lie of the horse's coat.

4. Ask a friend or colleague to take photographs of you:

(a) clipping

(b) pulling a mane

(c) trimming a tail.

5. Write a short summary of what you have done well and what could be improved.

SPECIALIST TACK AND EQUIPMENT

This section is about the range of tack and equipment available to assist in the education, training and performance of racehorses. Whilst most trainers will opt for the most simple bit and avoid the use of specialist tack and schooling equipment unless absolutely necessary, it is helpful to understand the purpose and use of available equipment should the need arise.

By studying this section you will have an understanding and knowledge of:

- types and use of specialist tack and equipment
- fitting of specialist tack.

BITS AND BITTING

The purpose of the bit is to enable a rider to control and guide the horse. Most correctly educated and trained horses will only require a simple snaffle bit for the rider to be able to achieve control. There are, however, occasions when a rider may need to consider alternative bitting arrangements. Sometimes it is preferable to use a slightly stronger bit in kind hands than persevere with a snaffle bridle on a strong horse, which only the very strongest rider can hold.

As a general principle, bits fall into one of the following five categories:

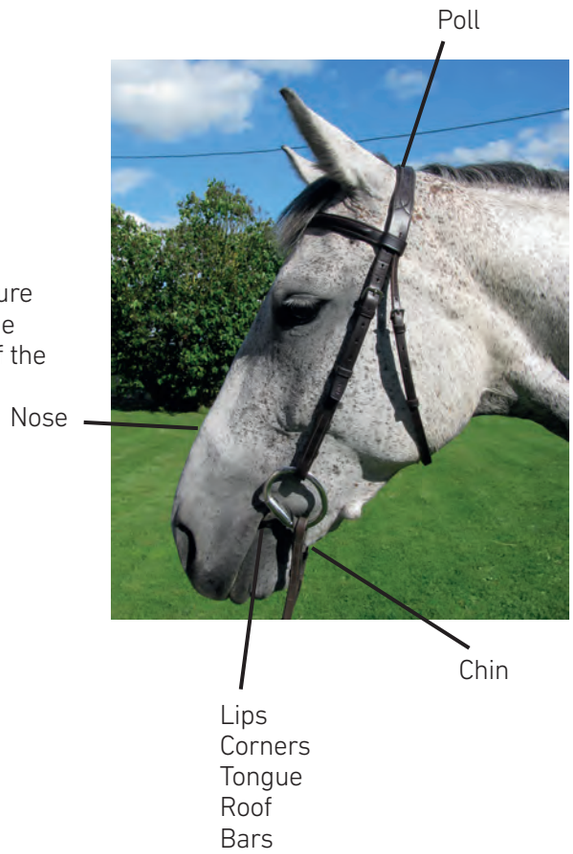
- snaffle
- double
- pelham
- gag
- bitless bridle.

When selecting and fitting a bit the structure of the mouth should be considered and the areas that can be affected by the action of the bit and bridle are:

- corners of the mouth and lips
- bars of the mouth
- tongue
- roof of the mouth
- side of the face
- chin groove
- nose
- poll.

Problems in the mouth, which may affect the type and size of bit selected, include:

- sharp molars
- wolf teeth
- sensitivity of the skin covering the bars of the mouth
- length of the jaw
- position and size of the tongue in relation to the shape of the jaw.



SNAFFLE

The snaffle is generally considered the simplest form of bit acting on the lips, tongue, bars and corners of the mouth. It is the preferred bit in most racing yards.

The bit rings can be loose or fixed and the mouthpiece can be straight or have a single or double joint. The main types of snaffle are:

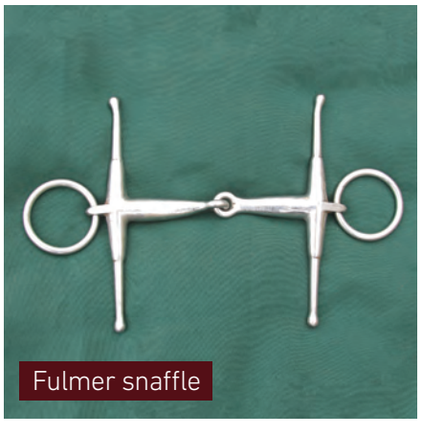
- loose ring – probably the most common bit in racing yards
- eggbutt – prevents pinching of the corners of the mouth
- D-ring – also popular in racing yards due to the 'cheeks' on the bit
- fulmer – helps with steering
- hanging cheek – increases poll pressure
- French bridoon – reduces the 'nutcracker action'
- Dr Bristol – more severe due to additional pressure on the tongue.

There is an increasing number of variations of the above bits with a range of alternative actions depending on the construction of the mouthpiece and rings.


Loose ring snaffle

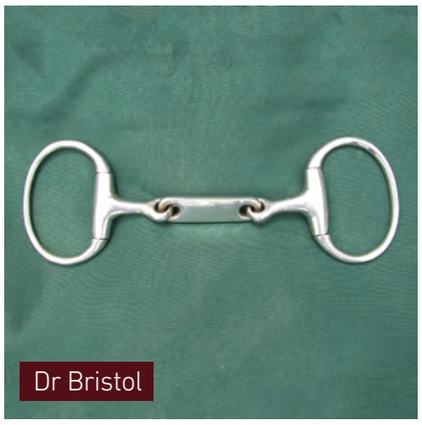

Eggbutt snaffle


D-ring snaffle


Fulmer snaffle


Hanging cheek snaffle


French bridoon


Dr Bristol

DOUBLE BRIDLE

Although very rarely used in racing, it is helpful to understand the purpose of the double bridle. Some racehorses that are re-trained for other careers such as showing or dressage may be ridden in a double bridle. The double bridle has two metal bits. The bridoon is the snaffle bit with small rings, which is used together with a curb bit. The curb bit comes in a variety of designs and is used with a curb chain and lip strap.

The double bridle is used on dressage horses, which are ready to accept a lighter and more refined aid from the rider's hand. In the show ring, it is used to enhance turnout and increase control.

The action of the double bridle is as follows:

- The bridoon acts in a similar way to the snaffle. It encourages the horse to work on the bit, going forward into an even contact on both hands. The bridoon can raise the head.
- The curb bit gives a lighter, more refined feel and it helps to position the head as collection is developed. The curb should lie immediately below the bridoon, but not so low that it touches the tushes. Both bits should be able to act independently. The curb chain should be adjusted to ensure that the chain comes into action when the cheeks of the bit are at an angle of 45° to the mouth. Curb chains can be made of metal with either single or double links. Curb guards can be attached to metal chains. Leather or elastic curb chains are also available.

Double bridle

Pelham

PELHAM

The Pelham is a combination of a snaffle and a double bridle. It is rarely used in racing yards, but is useful for horses that are too strong in a snaffle. It has one mouthpiece, which can be jointed, straight or mullen (half moon). The Pelham can be used with two reins; one attached to the rings on the mouthpiece and the other to the rings on the lower cheek. Alternatively, a single rein fastened to 'roundings' attached to the two bit rings can replace the double reins.


Gag


English hackamore

GAG

There are many variations of the gag bit available. The traditional gag snaffle has two holes in the bit rings or cheeks, through which roundings run, attaching to the headpiece and reins.

Its action brings considerable pressure on the corners of the mouth and the poll. It can be effective on horses that put their heads down and pull, as its leverage action can enable a rider to raise the horse's head. This can be a severe bit and should only be used by experienced hands.

BITLESS BRIDLE

The bitless bridle (sometimes known as a hackamore) is designed to control the horse by applying pressure on the nose without the use of a bit. It is useful on horses with sore mouths or on those who will not accept a normal bit. The padded nosepiece, held in place by a strap or chain, exerts considerable pressure on the nose and also acts on the poll, chin groove and lower jaw. The precise action depends on the design of the bridle but they can be severe and should only be used by experienced riders.

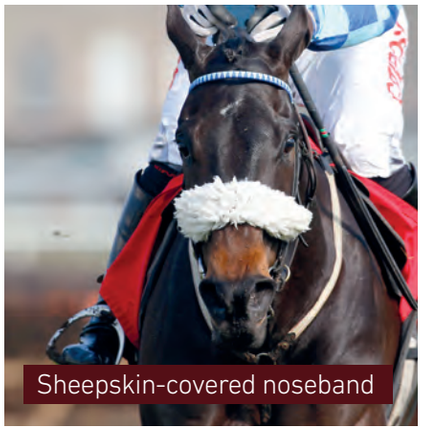

Cavesson


Drop noseband


Flash noseband


Grackle


Kineton


Sheepskin-covered noseband

NOSEBANDS

There are several types of nosebands in use and each has a slightly different purpose. Commonly used nosebands include:

- cavesson: This is a standard noseband, fitted above the bit and mainly used to improve the appearance. If a standing martingale is used it is fitted to a cavesson noseband.
- drop: The drop noseband should be carefully fitted below the bit with the back strap resting in the chin groove. It should be fitted sufficiently high at the front so that it does not interfere with the horse's breathing, but must be tight enough to prevent the horse from opening its mouth.
- flash: The upper part of the flash noseband is similar to the cavesson, with an additional lower strap fitted below the bit to prevent the horse from opening its mouth and crossing its jaw.
- grakle (crossed): This has a similar action to the flash, but acts over a wider area and helps prevent the horse from crossing its jaw.
- kineton: The kineton, unlike other nosebands, has no back strap. The front strap has an adjustable front strap fitted to a metal loop at each side. The loops are hooked around the mouthpiece of the bit. When a strong contract is taken on the reins, pressure is applied to the nose. It can be very effective on a hard puller.
- sheepskin: Often used in racing, a sheepskin noseband is a cover attached to the front of a noseband and is designed to stop a horse carrying its head too high.


Running martingale


Irish martingale


Standing martingale


Bib martingale

MARTINGALES

There are several different types of martingale available according to the particular needs of the horse and rider. The most common types are:

- standing: The standing martingale prevents the horse lifting its head beyond the point of control and fixes at one end to the girth and the other end to the cavesson noseband with a leather strap passing around the horse's neck.
- running: The running martingale has the reins passing through the rings of the martingale which applies pressure on the horse's mouth when its head is raised. This helps to prevent the horse from putting its head above the point of control.
- bib: This type of martingale has a similar action as a running martingale but also has a centrepiece of leather to prevent the horse from getting caught up in the branches of the martingale.

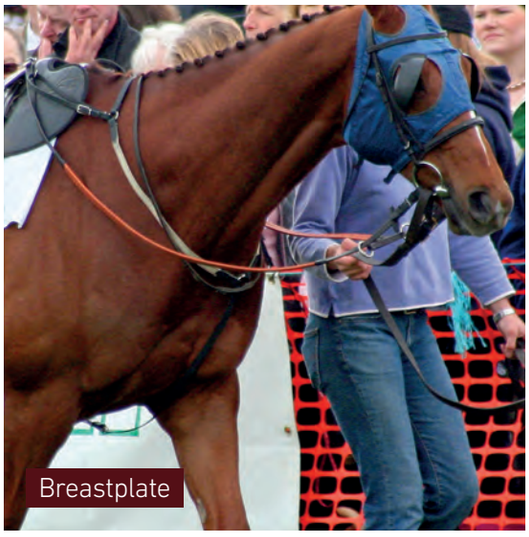
All of these martingales can be adapted to be attachments to a breastplate.

- Irish: The Irish martingale is a short strap with rings at each end through which the reins pass. This martingale is designed to prevent the reins coming over the horse's head in the event of a fall or an awkward jump. This type of martingale is commonly used in racing.

BREASTPLATES

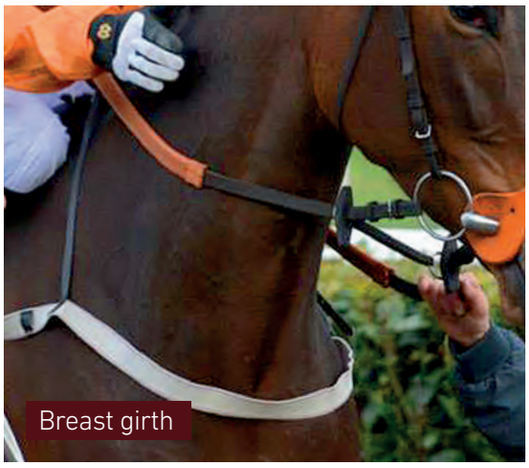
A breastplate is used to prevent the saddle from slipping back. There are two main types. These are:

- breastplate: This is similar to a martingale with straps running back to fasten on the saddle 'D' rings. Care must be taken not to fit this type of breastplate too tightly as it can cut into the horse's chest when jumping. Martingale attachments can be fitted to this breastplate.



Breastplate

- breastgirth: It has a section of web or elastic and the straps are fastened to the girth straps. Care should be taken to ensure that the breastgirth is not too high, which would restrict the freedom of the horse's neck.



Breast girth

SADDLES

Even within racing there is a variety of saddles available to suit the individual requirements of horse and rider. Most race exercise saddles have a full or half tree and very forward cut flaps to support the riders' knees as they adopt the poised position at faster paces.

Race exercise saddle

Chambon

SCHOOLING AIDS

Most schooling aids are designed to teach the horse to lower and stretch the head and neck, thus stretching the muscles of the back and allowing the horse to engage the hindquarters. However, if misused they can cause accidents and so must only be used properly by those trained and skilled in their use.

- Draw reins: The draw rein starts at the girth, passes between the front legs, through the bit rings and back to the rider's hands. Each rein passes from the inside to the outside of the bit ring. Draw reins should be used with a normal rein placed above the draw rein. The draw rein may also be fitted so that it runs from the girth straps of the saddle, through the bit rings and back to the rider's hands.
- Chambon: The chambon runs from the girth, between the horse's front legs to the poll and then down the bit to put pressure on the poll and induce a lowered head carriage. It is used on the lunge with a mild snaffle bit.
- de Gogue: The de Gogue is more advanced than the chambon and can be used for ridden work as well as on the lunge. On the lunge the de Gogue has a strap running from the martingale body to the poll, to the bit and back to the martingale or saddle 'D', forming a triangle. For riding, instead of passing from the bit back to a fixed position, a rein is attached.

ANCILLARY RACING EQUIPMENT

- Blinkers: Blinkers are defined as a garment fitted over a horse's head with holes for eyes and ears, one or both eyeholes being fitted with cowls cutting out all vision to the rear but permitting full vision forward. They may be fitted to a horse to help it concentrate during a race by reducing its range of vision thus making it look ahead. By helping the horse to keep its mind on the job they can bring about a transformation in performance.
- Visor: A visor is similar to blinkers with a slit cut in one or both cowls allowing limited side or rear vision.
- Hood: A hood is a garment similar to blinkers incorporating ear covers but without eye cowls.
- Eyeshields: A horse with no, or very defective, vision in one eye may wear an eyeshield. This is similar to blinkers except that, in place of the eye cowls, one eye only is completely covered by an opaque cover.
- Net: Occasionally a trainer will use a net attached to the noseband and fitted over the mouth.
  This helps to steady a hard puller by keeping the mouth closed and is thought to have a psychological effect.
- Tongue-strap: A tongue-strap may be used for horses that 'swallow' their tongues, get their tongue over the bit or have other associated problems. Having first pulled the tongue forward, a leather tongue strap or a band of nylon is fitted round the horse's tongue and attached round the lower jaw.
- Boots: There is a wide range of protective boots available on the market with variations in weight, substance and fastening. All boots should be fitted carefully and securely. Badly fitting boots may cause rather than prevent problems. In general, 'Velcro' straps are preferable to buckles, and all straps should have a degree of elasticity.
- Exercise bandages: These bandages are used for horses that need protection and support whilst at exercise. The bandages are applied over a protective pad from the top of the cannon bone extending down to the fetlock joint. The tapes of the bandages should be fastened securely on the outside of the cannon bone. Applying exercise bandages requires skill and experience as badly fitting bandages (too tight or too loose) may cause serious injury to the horse, especially to the flexor tendons.

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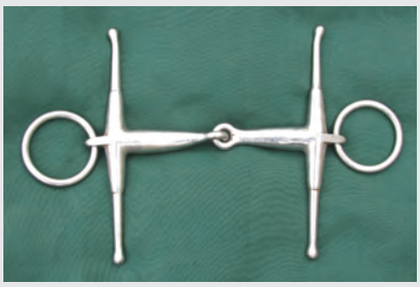
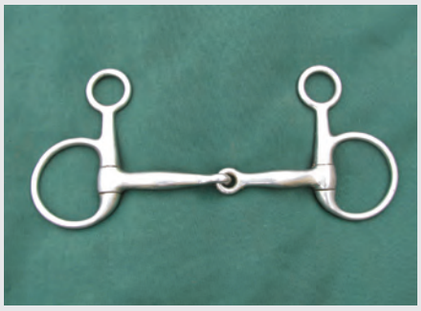
REVISION TEST

1. Identify the FOUR bits illustrated below:





2. List FIVE areas of the horse's head on which the bridle can act.

3. Label the THREE nosebands illustrated below:

4. Choose the correct word from the box to complete the sentences.

blinkers	protect
swallow	
lunge	injury

(a) Exercise bandages _____ the horse's legs from _____

(b) A tongue strap can be used for horses that _____ their tongue.

(c) A chambon is only used on the _____

(d) _____ are defined as a garment fitted over a horse's head with holes for eyes and ears, one or both eyeholes being fitted with cowls cutting out all vision to the rear but permitting full vision forward.

5. What is the function of an Irish martingale?

6. List the specialist tack and equipment in common use on your yard.

GRASSLAND MANAGEMENT AND CARE OF HORSES AT GRASS

This section is about the management of daily and routine care required by horses at grass. Horses may be kept at grass for a number of reasons including rest, breeding, recovery from injury, retirement or owner's preference.

By studying this section you will have a knowledge and understanding of:

- checking fields for suitability and security
- how to turn out and catch grass-kept horses
- the daily and routine checks that should be made to horses at grass
- maintenance of pasture land.

Senior racing grooms will need to oversee the daily care and attention required for horses to thrive at grass and to ensure pastures are well maintained. Horses are herd animals and will normally thrive in a natural, well-maintained environment with suitable company and routine care.

FIELD SUITABILITY

There are a number of requirements which should be considered when selecting a field suitable for horses.

FENCING

The fencing of land for use by horses must be safe and stock proof. There are various types of fencing available including:

- hedges: Must be tough, strong and well maintained. Often used with another form of fencing to prevent horses from pushing through. Hedges must be safe from poisonous plants such as privet, yew and laburnum
- post and rail: Safe and strong but can be expensive to erect and maintain. Horses can be prone to chewing and rubbing on rails
- heavy duty plastic: Low maintenance but expensive to erect
- electric: Ideal for temporary fencing, being easy to erect and dismantle
- stone walls: Offer good security and shelter but are expensive to erect and maintain
- plain wire: All wire fencing is potentially hazardous and must be stretched taut between the posts. Barbed wire should be avoided as it can cause serious injury.

Post and rail fence

SHELTERS

Horses need shelter from the sun and wind. Shelter can be provided by:

- field shelters
- large trees
- hedges.

GATES

Gates should be positioned for easy access and open inwards. They should be of sound construction with a secure catch and lock. Poached gateways can be protected with rubber field matting to avoid excessive mud in wet weather.

WATER

There must always be a clean and constant supply of water. The best arrangement for watering a horse at grass is by providing a self-filling trough. These must be checked daily (twice a day in icy weather) and cleaned out regularly. The trough should be placed away from trees so they do not get clogged up with leaves in autumn.

Water trough

A suitable alternative is a river or stream with a good approach and gravel bottom. Ponds or stagnant water and streams, which may be polluted, should not be used and must be fenced off.

PASTURE

The food value of the pasture depends on the time of year, whether there is active growth, and on the type, variety and quality of the grass. It is possible to receive professional advice on the suitability and quality of the grass and soil.

The quality and amount of grazing land needed will depend on whether the horses are out full time, their nutritional requirements, the time of year and how well the land drains.

Overstocking can create long-term problems. Poaching and over grazing should be avoided and paddock rotation and resting implemented where possible. The use of mixed grazing with sheep and cattle is beneficial in improving the quality of the grassland and reducing worm burden. Picking up droppings is another very effective method for controlling the parasite burden and should be carried out daily or at least twice a week.

If droppings are not removed from the pasture then harrowing and resting the paddocks will help to maintain the quality of the grass and control parasites.

Poor maintenance can lead to horse sick pastures. The grass around manure will grow long and be unpalatable to horses while other areas will be grazed down to an unacceptable level.

A 'horse sick' paddock

POISONOUS PLANTS

All poisonous plants must be removed before a field is grazed by horses. Some plants are more palatable to a horse when cut and dried so must be removed from the site and destroyed. Gloves should be worn when pulling ragwort and other poisonous plants.

PADDOCK MAINTENANCE

Good paddock management will pay dividends in promoting the health and welfare of horses. The chart below identifies some of the routine and annual maintenance required.

When	What
Daily	Check: • water supply • fencing • removal of hazards • security • pick up droppings
Spring	• harrow to remove dead grass and promote re-growth • fertilise if appropriate (in response to soil analysis) • beware of too much spring grass for horses prone to laminitis • re-seed poached areas if required in March–April (remove horses from pasture for approximately six weeks after re-seeding) • roll the land to assist with new seed germination and encourage established grass to tiller (grow new shoots horizontally) • apply weed killer if appropriate or employ other method of weed control
Summer	• top the pasture regularly between June and October to promote growth of young grasses and stimulate new root development (normal height of topping is approximately 10cm or 3")
Autumn	• continue with routine management
Winter	• fence off poached areas to reduce damage • undertake soil analysis to determine pH and soil nutrient levels to plan following year's treatments.


Privet


Ragwort


Yew


Horsetail


Hemlock


Oak/acorn


Laburnum


Woody nightshade


Deadly nightshade


Black nightshade

GENERAL MANAGEMENT OF HORSES AT GRASS

Twice daily visits to horses at grass are essential and the following points should be checked:

- health and condition of the horse
- foot and shoe condition
- water supply
- fencing
- general condition of field and grass.

GROOMING

Horses at grass would not normally be groomed unless ridden. In this case care should be taken not to remove the natural oils from the horse's coat by excessive use of the body brush. The feet should be checked and picked out regularly.

FEEDING

In the winter months and when grazing is limited, supplementary feeding will be required. Purpose-made feed bowls can be placed in old car tyres which do not tip over and have no sharp edges. Feed bowls should be well spaced out to reduce the risk of kicking.

Hay should be fed on the ground in small heaps or in specially designed feeders. There should be more heaps of hay than horses as bossy horses will often chase the timid ones off. Hay racks tend to be wasteful and difficult to manage and haynets are hazardous when tied to a fence as horses can get their legs caught in nets which have dropped when empty.

REVISION TEST

1. List TWO advantages and TWO disadvantages of using post and rail fencing for horses.

2. List THREE suitable water supplies for a horse at grass.

3. Identify the FOUR poisonous plants illustrated below:




4. List FIVE field checks that should be made on a daily basis.

5. Take a picture of a field that is being grazed by horses. Describe the fencing, shelter, gates access and quality of the grazing. Is this field safe and suitable? If not, what should be improved?

PROVIDING NON-RIDDEN EXERCISE AND TRAINING AIDS

This section is about managing the non-ridden exercise for horses through a range of methods. When getting horses fit there may be occasions when it is necessary to provide exercise other than ridden work. This could be due to weather and ground conditions or if the horse is unable to be ridden due to health reasons.

By studying this section you will have a knowledge and understanding of:

- methods of providing non-ridden exercise
- methods and practice of lungeing
- use and purpose of horse walkers
- exercising a horse in hand.

Long reining

LUNGEING

Lungeing can be a useful form of exercise for the following reasons:

- when a horse has a sore or injured back or mouth
- when a horse is fresh and needs to be settled prior to being ridden
- if a member of staff is unable to ride but has the skills to lunge
- to re-accustom a rested horse to the feel of the saddle
- training the young horse.

Lungeing can be hard work, particularly for an unfit horse and should be introduced gradually for short periods of time.

EQUIPMENT AND FACILITIES

The horse

The following tack should be used:

- lungeing cavesson – has a padded noseband with three metal rings on the front; the lunge line is attached to the middle ring and the cavesson gives more control than a headcollar
- a bridle may be worn beneath a cavesson or suitable headcollar
- lunge rein
- brushing boots
- overreach boots (if required)
- saddle and side reins (if required).

The handler

The following equipment should be used by the person lungeing the horse:

- gloves
- skull cap
- suitable strong footwear
- lunge whip.

The environment

Lungeing should be carried out in an enclosed area with a good surface. Hazards such as jumps and poles should be removed prior to lungeing.

METHOD

The horse should be encouraged to go forward calmly and actively. The voice is an essential aid when lungeing and well-trained horses will respond to voice commands when changing pace.

Horses must be worked equally on both reins to ensure equal muscle development and to prevent stiffness on one side. The horse should remain on a true circle, working around the handler on a constant contact. The rein should never be wrapped around the hand or allowed to trail on the ground.

Lungeing

HORSE WALKERS

These are circular pens with rotating partitions in which the horses are exercised. Each horse is placed in an individual partition that rotates around the outer limits of the pen.

Horse walkers are useful for providing light exercise and, once accustomed to the process, one or more horses can be walked at a time, for any of the following reasons:

- to warm a horse up before exercise
- to cool down after exercise
- to provide light exercise on a day off
- to provide a change of scenery and prevent boredom.

Horse walkers come in a variety of designs and sizes, normally taking a maximum of six horses. They can be open or covered and should always be sited on flat, well-drained land. Suitable footing is essential.

Horse walker

When putting horses on a walker, care must be taken to ensure the horse remains calm and confident, particularly during entry and exit.

A supervisor should always oversee the loading and unloading process and horses should never be left unattended.

IN-HAND EXERCISE

In-hand walking is useful for providing light exercise to resting horses and stallions. Most horses are taught to lead from the near side. The horse should wear a bridle for control (a chifney can be used with fresh or difficult horses) and knee boots. It is advisable for the handler to wear a skull cap, gloves and suitable footwear.

A well-trained horse will walk calmly forward alongside the handler. When turning it should be turned away from the handler for better balance and control.

SWIMMING POOLS

Swimming has many benefits:

- it adds variety to a horse's training regime
- many find it an enjoyable experience
- the water provides buoyancy, which relieves pressure on joints, bones and ligaments
- the water provides enough resistance to ensure a thorough workout
- swimming can aid both muscular development and maintain cardiovascular fitness.

Swimming

Swimming can also keep an injured horse fit without damaging any affected areas. Without the use of a pool, recovery can take considerably longer as the principal alternatives are box rest and a change in diet. Swimming a horse is a skilled job and full training should be received by those participating.

WEIGH BRIDGE

Many racing yards weigh the horses on a weekly basis and also before and after each race. This allows them to monitor the condition of each horse more accurately and make adjustments to their diet or training if necessary. It also enables the trainer to establish each horse's optimum racing weight.

Weigh bridge

EQUINE SOLARIUM

Many yards incorporate an equine solarium for use in their daily routine. The infrared heaters are fully adjustable, allowing the user to control exactly how and where heat is applied specific to the needs of each horse. In addition to their therapeutic use, the solarium can also be used to dry horses after washing or swimming.

Each solarium is powered by special infrared bulb heaters. These provide a pleasant warming effect that can improve circulation and help to relax tense muscles. The effect is similar to a horse being out in a field and enjoying warm sunshine but without the harmful UV rays. As with humans, this treatment provides a valuable source of vitamin D, essential for joint and bone health, and which also helps the body to absorb calcium.

The solarium can be a useful way to complement the natural healing of a horse that has suffered abrasions or, perhaps, a sore back. Additionally, some horses exercise better if they have had a session in the solarium beforehand.

Spa

WASH DOWN BAYS

Many yards have wash down bays or areas that allow the horses to be cleansed and refreshed following a busy training session. Ideally, the floors and walls of wash down bays should be equipped with quality rubber lining, minimising the risk of any horse slipping due to wet conditions.

Basic wash down facilities will simply involve an external tap and hose pipe, although more sophisticated facilities are temperature controlled. This allows the horse to be washed with water at the recommended temperature. Not only is this more pleasant for the horse, it also helps to prevent muscles from stiffening.

RECORD-KEEPING

For whatever reason the non-ridden exercise is being used, it is important to ensure that the horse receives the right amount of time. For example, too long on the lunge can create muscle soreness through tiredness. Too little time can result in horses becoming over-fresh.

Records should be kept of any activity relating to non-ridden exercise so that it can form part of the overall training plan.

Washing off

REVISION TEST

1. List FOUR reasons when a horse might be lunged, instead of being ridden.

2. Why should horses be lunged equally on both reins?

3. List FOUR occasions when a horse might be exercised on a horse walker.

4. Complete the sentences using the words provided:

Near	bridle	
gloves		stallions
skull cap		resting

(a) In-hand walking is useful for providing light exercise to _____ horses and _____.

(b) Most horses are taught to lead from the _____ side.

(c) The horse should wear a _____.

(d) It is advisable for the handler to wear a _____, _____ and suitable footwear.

5. List THREE benefits of swimming horses as part of their exercise regime.

6. Why is it important to keep records of the non-ridden exercise that a horse has been given?

ASSIST WITH THE TRAINING OF RACEHORSES

This section is about assisting with implementing training regimes for racehorses, from early fitness to racecourse performance.

By studying this section you will have a knowledge and understanding of:

- early fitness and pre-race training
- types of training programmes and how to monitor and evaluate them
- how to assess a horse's fitness and training programme
- how to modify a fitness and training programme.

Preparation of racehorses for racecourse performance includes many different aspects and does not just relate to its work and management. Successful training yards will have an all-embracing approach to racehorse preparation and will include:

- suitable resources, equipment and facilities
- setting and agreeing training targets
- initial and ongoing assessment of a horse's condition, conformation and fitness
- correct feeding, shoeing, health care and application of preventative medication
- type of horse, its temperament, breeding, age and experience
- routine veterinary care and blood testing
- psychological and physical effects of training on horse
- horse's specific requirements in terms of education, schooling and training needs
- identification of optimum body weight and use of weighing machines
- record-keeping
- how to monitor, evaluate and amend a training programme.

FACILITIES AND RESOURCES

The better the facilities and resources available to a racehorse trainer, the better his/her potential to train winners. However, good facilities must be maintained in the highest possible state of repair to avoid any accidents or incidents – poorly maintained gallops can have devastating effects on a horse's legs or performance.

There are a range of facilities and resources available for training racehorses, however these will only enhance the training provision and many trainers produce many winners with only the minimum of facilities.

GALLOPS

Gallops can vary greatly in shape, length and surface and may be private or public. Gallop maintenance should be a priority. The maintenance regime will depend on a number of factors including:

- surface – grass or all-weather
- shape – round or straight
- size
- usage
- drainage
- terrain – flat or inclined.

SCHOOLING FACILITIES

Depending on the code under which the horses are being trained, the training will require the horses to be trained to jump or exit starting stalls – or in many cases, both.

Schooling facilities will include:

- starting stalls and/or
- nursery jumps
- hurdles
- fences.

Stalls

Practice fence

As with any schooling aid, these must be maintained in very good condition and risk assessments in place for when they are used.

ANCILLARY TRAINING FACILITIES

Lunge rings

These are very useful when educating and breaking young horses and providing non-ridden exercise to mature horses. Surface maintenance is paramount as horses will always be on the turn and a poor or uneven surface can have a very detrimental effect on young joints.

Indoor/outdoor arenas

Enclosed arenas are extremely valuable for providing exercise areas in bad or extreme weather and providing a training environment to develop horses both on the flat and over jumps. An enclosed area enables a trainer to assess each horse prior to more strenuous work on the gallops. Surface and boundary maintenance is essential.

Horse walkers

Ideally with a roof to protect horses in extreme weather, horse walkers can be useful for warming up, cooling off or providing non-ridden exercise.

Swimming pools

These can be a useful form of exercise for horses either recovering from injury or requiring supplementary exercise to routine ridden work.

Weighing machines

Many racing yards weigh the horses on a weekly basis and also before and after each race. This allows them to monitor the condition of each horse more accurately and make adjustments to their diet or training if necessary. It also enables the trainer to establish each horse's optimum racing weight.

Equine solarium

Some yards incorporate an equine solarium for use in their daily routine. Infrared heaters are fully adjustable, allowing the user to control exactly how and where heat is applied specific to the needs of each horse. In addition to their therapeutic use, the solarium can also be used to dry horses after washing or swimming. Each solarium is powered by special infrared bulb heaters. These provide a pleasant warming effect that can improve circulation and help to relax tense muscles.

Wash down bays

It can be helpful to have designated wash down bays or areas that allow the horses to be cleansed and refreshed following a busy training session. Ideally, the floors and walls of wash down bays should be equipped with quality rubber lining, minimising the risk of any horse slipping due to wet conditions.

SETTING AND AGREEING TRAINING TARGETS

When a trainer is setting and agreeing training targets for a racehorse with owners and connections, the following factors will be considered:

- breeding and type of horse
- code of racing (flat/jumping)
- age
- conformation and movement
- current ability, condition and fitness
- educational needs and temperament
- history
- racing targets.

Training racehorses is a skill that takes years to develop and a racehorse trainer will say they never stop learning. An overview of setting training targets for the following groups of horses will only scratch the surface but some points are worth considering:

YEARLINGS AND TWO YEAR OLDS

When breaking yearlings and preparing them for a two-year-old campaign, they must be given individual attention and an opportunity to learn and develop at an appropriate rate. Careful monitoring is required to ensure that training programmes are suitable for each horse and do not adversely affect its physical and mental development. Rushing youngsters and overworking them may result in physical problems, unsoundness or undesirable behaviour.

FLAT HORSES

Horses are usually specifically bred for flat racing and often commence their racing career by being broken in as a yearling. Some with the right physical and mental attributes may race as two year olds whilst others may be turned away to mature.

Training programmes will need to be prepared for older horses returning from a break or injury.

HURDLERS, NATIONAL HUNT AND POINT-TO-POINT HORSES

Horses bred to race over obstacles are generally bred for this code and are generally given more time to mature than their flat counterparts, although some flat horses can be trained to go on to run over hurdles or fences. A training programme will take account of a horse's maturity and physical strength to cope with obstacles.

TYPES OF TRACK AND GOING

During the assessment and training programme, other factors will emerge that will influence the targets set for a particular horse. The type of track and the horse's preference will include:

- stiff
- easy
- left-handed
- right-handed
- distance
- going/ground conditions.

EXERCISE AND ITS EFFECT ON TRAINING PROGRAMMES

Increasing the amount and intensity of exercise will improve fitness by increasing the demands on the horse's body. The muscles will condition with the increased blood and oxygen supply and tendons, ligaments and bones will become more tolerant to increased work.

The horse's diet will be adjusted in accordance with increased workload, and adequate carbohydrates are required to fuel the body. Carbohydrate is stored in the muscles as glycogen with any carbohydrates not used being stored as fat reserves. Glycogen is used quickly for energy in fast work and produces a waste product called lactic acid. If lactic acid accumulates too quickly it can damage muscle fibres and is also thought to contribute to a condition called azoturia (tying up) where certain muscle groups seize up. Protein also provides a source of energy but only if carbohydrate is deficient in the diet.

As the horse becomes fitter it will become clearer in its wind, as periods of inactivity can lead to the air sacs in the lungs becoming clogged with mucus. Exercise pushes the mucus up out of the lungs, creating a larger lung capacity and therefore increased efficiency in getting oxygen into the bloodstream. The muscles of the diaphragm and chest that control breathing also strengthen as exercising horses uses them more.

The resting heart rate of a horse is normally 36 to 42 beats per minute (bpm). However, the heart rate of a very fit horse at rest can be as low as 26 bpm and can reach a maximum of 240 bpm when galloping. The heart, as with other muscles, responds to exercise by developing in size and capacity.

The internal changes to the heart, circulatory and respiratory system during a fitness programme are indicated by:

- a slower resting heart rate
- a less dramatic increase in heart rate and respiratory rate for a given amount of exercise
- quicker recovery rates after exercise
- a greater tolerance for work.

STAGES OF WORK

The early stages of a horse's training and fitness programme will normally involve a period of slow work, either on a horse walker or ridden – or a combination of both. Exercise should be increased gradually with hill work being introduced once the early slow work has been established. The trainer will monitor the amount, intensity, distance, speed and terrain that the horse is exercised over and increase this incrementally, evaluating the horse's response over time.

Canter work will precede 'development' work which includes schooling and an increase in distance and speed.

Fast work is a crucial part of the training programme and the amount and type of work will depend on the individual horse, the trainer's methods and the type of race the horse is being aimed at. Horses may work alone or with other horses – either upsides or in formation. The actual definition of fast work can vary from trainer to trainer and therefore riders should check the trainer's instructions carefully. Horses may also be worked at faster paces to judge ability.

Riding work

Fast work should only be carried out on a safe, well maintained gallop. The aims of fast work include:

- development of a horse's fitness
- educating young horses
- developing a horse's style of running
- assessing a horse's ability by matching it against others
- assessment of fitness.

SCHOOLING

Education and schooling is a key factor in any training programme, and ensures the horse is fully prepared for a racecourse performance. According to its racing aims the horse will either be schooled out of starting stalls or over jumps. Correct schooling will not only enhance the likelihood of the horse performing well, it will also contribute to the safety and welfare of the horse, jockey and others in the race.

Stalls training

Jump schooling

Schooling young horses will take place over time, and at regular intervals to ensure the horse becomes skilled and confident. Older horses will often be used to give a younger horse a lead.

PHYSICAL AND MENTAL EFFECTS OF TRAINING

Over training, unsuitable training or insufficient training can lead to physical problems and behavioural challenges. Horses that have had a hard season or exhibit symptoms of stress may be referred to as 'over the top'. Signs may include:

- anxiousness or changes in behaviour
- poor appetite
- losing condition/weight loss
- dull coat
- abnormal or excess sweating
- increased pulse rate at rest and work
- soreness, stiffness or change of gait
- stable or ridden vices
- reluctance to go onto gallops
- abnormally poor performance.

RECORD-KEEPING

Accurate and timely maintenance of records pays dividends when establishing and monitoring a training programme for racehorses. Some records will be required by the regulatory authority, the British Horseracing Authority, and others will enable the trainers to review past training activities in relation to racecourse performances and draw relevant conclusions. Record-keeping should include:

- health care (including temperature, pulse and respiration rates)
- feed
- routine and preventative medications (vaccination and worming strategy)
- shoeing
- blood profiles
- weight
- work regimes
- schooling
- racecourse performance.

EVALUATING AND AMENDING TRAINING PROGRAMMES

All members of staff play an important part in evaluating whether the agreed training programme is on target or whether adjustments should be made – stable staff will feedback on their horse's behaviour and characteristics, senior staff will monitor health and condition and work riders will report on the horse's way of going.

Every horse is an individual and there is no single method of training that will suit every horse. Therefore it is important that those involved with the training programme are flexible and able to make small or major changes to plans which are ultimately in the horse's, and its connections', best interest.

Things that might promote a re-think of the training programme include:

- temperament
- age
- experience
- health/injury
- racing plans
- weather.

Modifications to the training plan may include:

- change of routine
- change of rider
- change of work regime
- period of rest
- change of stable/environment
- change of diet
- change of career.

REVISION TEST

1. Gallops can vary greatly. List four variations that would affect the planning of a training programme.

2. Identify six factors to take into consideration when preparing a training programme for a horse.

3. Increasing the amount and intensity of exercise will improve fitness by increasing the demands on the horse's body. Fill in the spaces from the words below:

carbohydrates	azoturia	oxygen	size
glycogen		blood	
ligaments	diaphragm	lactic acid	36 to 42

(a) The muscles will condition with the increased _____ and _____ supply.

(b) Tendons, _____ and bones will become more tolerant to increased work.

(c) The horse's diet will be adjusted with increased workload; adequate _____ are required to fuel the body.

(d) Carbohydrate is stored in the muscles as _____.

(e) Glycogen is used for energy in fast work and produces a waste product called _____ _____.

(f) Lactic acid is thought to contribute to a condition called _____

(g) The muscles of the _____ and chest that control breathing strengthen as exercising horses uses them more.

(h) The resting heart rate of a horse is normally _____ beats per minute (bpm).

(i) The heart responds to exercise by developing in _____ and capacity.

4. Take a specific horse from your yard and describe how you would evaluate its training programme

5. List five signs that a horse may be 'over trained'.

6. What records should be kept to assist the trainer to monitor the horse's training programme.

TAKING HORSES RACING

This section is about taking horses racing, including preparation for the race, the raceday routine and care of horses after racing.

By studying this section you will have a knowledge and understanding of:

- racecourse entry procedures
- use of identity cards and passports
- preparation of a horse for racing
- racecourse procedures for stable staff and horses
- post-race procedures including routine sampling
- care of a horse after racing.

RACECOURSE PROCEDURES

There may be occasions when the trainer cannot be present at a race meeting, either due to having runners at different meetings or other commitments. The trainer will normally send his travelling head groom or another senior member of staff as a representative to ensure that the correct procedures are carried out. These include:

PREPARATION FOR TRAVEL

As well as loading the horse(s), the appropriate equipment should be packed. This may include:

- tack
- rugs
- buckets
- grooming kit and sponges
- colours
- paddock sheets
- paddock roller and lead rein
- stable pass
- passport
- overnight equipment if necessary
- feed and hay if necessary
- human and horse first aid kit.

THE JOURNEY

Horses should be checked frequently during the journey to ensure that they are travelling well. In adverse weather conditions, the racecourse or the stables should be contacted to establish whether or not the meeting is going ahead.

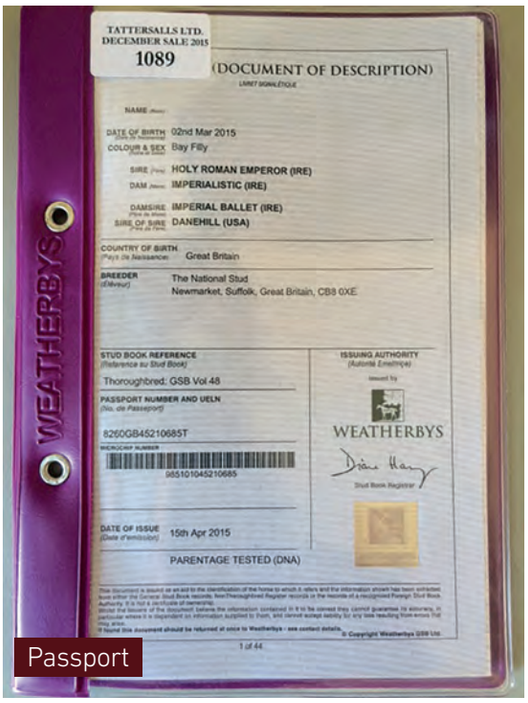
Loading

ON ARRIVAL

Racing grooms should sign in with the stable security guard and show his/her pass. If a stable has not been pre-booked, a stable will be allocated and staff should request the type of bedding which the trainer prefers. The horses will be unloaded and allowed to settle. Most trainers like the horse to arrive at least two hours before a race, depending on the length of journey.

Unloading

The trainer's representative will ensure that the colours and other equipment are taken to the weighing room and will establish whether the horse's passport needs to be seen by the racecourse veterinary surgeon. The veterinary surgeon may need to identify the horse against its passport and certify that it has received all the required vaccinations. Failure to produce the passport, or an incorrectly completed passport, may result in a fine for the trainer. The horse must be declared to run no later than 45 minutes before a race and the declaration procedures should be carried out according to regulatory requirements.



Passport

Nothing may be given to a racehorse on a raceday other than normal food and water, which must be given in the normal manner (i.e. by bucket or manger, and not in a syringe or by other means).

Horses must be controlled on racing premises by a bridle or chifney – never by the headcollar alone.

BEFORE THE RACE

The trainer's representative will normally see the jockey and relay any instructions that the trainer may have authorised. He may also see the owners and confirm that all the arrangements for the horse's running have been made. When the horse is brought into the pre-parade ring, the trainer's representative will collect the tack and equipment from the weighing room and saddle up the horse.

SADDLING UP

Saddling up

Saddling a racehorse is an operation that must always be undertaken with the utmost care and two major considerations must always remain uppermost in the mind – the safety of the rider and the comfort of the horse. Badly fitting tack may cause saddles to slip that could have serious consequences during a race.

When saddling a racehorse the trainer usually stands on the 'near' or left side of the horse, while the assistant stands on the 'off' side. The stages involved are described as follows:

- A pad, scrim or dampened chamois is placed well forward, covering the withers.
- The weight cloth is placed over this and the number cloth on top of that.
- The saddle is then placed well forward. It is advisable when setting the girth to have the buckles on either side at the same level and over the panel of the saddle so that they will not dig into the horse's skin.
- If a breastplate or breastgirth is to be used, it is fitted through the girth straps before the girths are secured. Breastplates and breastgirths should be fitted correctly, allowing free movement of the shoulders.
- The surcingle or overgirth is secured over the saddle and buckled under the belly. This serves as an added precaution against the saddle slipping during the race. The surcingle should lie over the girth.
- At each stage until after the girths are pulled tight, the tack must be held in place by either the trainer or assistant.
- The horse's legs can be pulled forward to ensure the skin lies smoothly underneath the girths.

ANCILLARY RACING EQUIPMENT

Some trainers will elect to use a range of specialist racing equipment that could have a positive effect on its performance. These include:

- Blinkers – Blinkers are defined as a garment fitted over a horse's head with holes for eyes and ears, one or both eyeholes being fitted with cowls cutting out all vision to the rear but permitting full vision forward. They may be fitted to a horse to help it concentrate during a race by reducing its range of vision, thus making it look ahead. By helping the horse to keep its mind on the job they can bring about a transformation in performance.
- Visor – A visor is similar to blinkers with a slit cut in one or both cowls allowing limited side or rear vision.
- Hood – A hood is a garment similar to blinkers incorporating ear covers but without eye cowls.
- Eyeshields – A horse with no, or very defective, vision in one eye may wear an eyeshield. This is similar to blinkers except that, in place of the eye cowls one eye only is completely covered by an opaque cover.
- Net – Occasionally a trainer will use a net attached to the noseband and fitted over the mouth. This helps to steady a hard puller by keeping the mouth closed and is thought to have a psychological effect.
- Tongue-strap – A tongue-strap may be used for horses that 'swallow' their tongues, get their tongue over the bit or have other associated problems. Having first pulled the tongue forward a leather tongue strap or a band of nylon is fitted round the horse's tongue and attached round the lower jaw.
- Boots – There is a wide range of protective boots available on the market with variations in weight, substance and fastening. All boots should be fitted carefully and securely. Badly fitting boots may cause, rather than prevent problems. In general, 'Velcro' straps are preferable to buckles, and all straps should have a degree of elasticity.

PARADE RING

Once the horse is saddled it will be taken to the main parade ring where all the horses are paraded walking in an anti-clockwise direction. Care should be taken not to get too close to the horse in front. The handler should wear the correct numbered armband for the horse.

Once the signal has been made for horses to be mounted, the horse should be turned into the paddock for the trainer and jockey to come to the horse and remove the paddock sheet or cooler. The trainer will normally leg the jockey up as the horse moves back to the outer perimeter of the parade ring.

The racecourse officials will indicate when the horses are to be taken from the parade ring onto the racecourse, where the handler will release the horse.

AFTER THE RACE

After the race, the racing groom will lead the horse from the track. Winning and placed horses are led into the winners' enclosure, while the others are unsaddled away from the main area. The jockeys dismount and return to the weighing room. Jockeys of all placed horses must weigh in. Other jockeys will weigh in at the discretion of the Clerk of Scales. A placed horse whose jockey, for whatever reason, fails to weigh in will be disqualified.

After the race

Winning horses will be escorted back to the stables by racecourse staff to provide a urine sample or if a horse cannot stale, a blood specimen for routine testing. Sometimes other runners will be required to provide samples either on a random basis or if there appears to be an irregularity in their form. Non-placed horses will be led back to the stable area, washed down and checks made to ensure that they have suffered no injuries and are showing no signs of abnormal conditions. In the case of serious injury a racecourse veterinary officer should be called.

Before leaving the course the colours and equipment should be collected from the weighing room and the horse finally checked before travelling home. Stable staff should be given strict instructions regarding any water or feed a horse is to receive on the return journey. There should be time allowed after a race for the horse to make a full recovery before being given anything to eat.

SAFETY PRECAUTIONS

Racehorses are inevitably at their most excited and unpredictable when at the races, where of course there are many racing connections and general public in close proximity. Control of the horse at all times is crucial and correct equipment should be used for maximum control.

Racing grooms must absolutely adhere to the Rules of Racing and regulatory requirements as any infringement, however minor, could not only affect the horse's performance and placing but also the reputation of the employer and the yard.

REVISION TEST

1. What equipment is normally required for a day at the races?

2. How soon before a race must a horse be declared to run?

3. Are the following statements true or false?

   (a) Nothing may be given to a racehorse on a raceday other than normal food and water.

   True ☐ False ☐

   (b) It is acceptable to give a horse water in a syringe.

   True ☐ False ☐

   (c) Horses may be controlled on racing premises by a headcollar.

   True ☐ False ☐

4. Describe the procedure for saddling up a racehorse in the pre-parade ring.

5. List five items of ancillary racing equipment.

6. What are blinkers and how can they help a horse's racing performance?

7. What is the dope testing procedure?

8. What checks should be made to a horse when washing it down after a race?

WORKING EFFECTIVELY AS A SENIOR MEMBER OF A TEAM

This section is about the additional responsibilities a senior member of a team may have in addition to their enhanced horsemanship skills. It is also about ensuring that working activities meet the requirements of the organisation and clients.

By studying this section you will have an understanding and knowledge of:

- your own and team responsibilities
- agreeing, planning and supervising work activities
- importance of strong team relationships
- staff training and development.

PERSONAL RESPONSIBILITIES

The success of any racing yard or stud depends very much on the performance of its staff and the working relationship within the team.

Qualities that an employer may look for in a good senior member of the team includes:

- Reliability – An employer should be able to rely on staff to carry out a job efficiently and effectively. A reliable worker will be quick to report problems so that alternative arrangements can be made.
- Responsibility – Staff should take responsibility for their own actions with due consideration and regard for people and horses.
- Efficiency – Staff should be punctual and plan their work to make the best use of all available time.
- Skilled – Staff should be keen to develop their skills and undergo training to become more effective in their work.
- Resourcefulness – Staff should be able to use initiative within their own area of responsibility and to seek assistance or guidance when required.
- Safety – Safe-working practices must be followed and care taken not to put others at risk.
- Realism – Staff should strive to meet their full potential through hard work and commitment and by setting realistic targets.
- Consideration – Teamwork can be enhanced through a careful and considerate approach to horses and other members of staff.

TEAMWORK

Most yards rely on teamwork and a positive working environment. The following points indicate good working relationships:

- Professionalism – All staff will carry with them the reputation of the yard that they are representing and must be professional and disciplined in their work.
- Everyone putting in their best effort.
- Everyone making a positive contribution to the success of the yard.
- The ability of staff to take or give instructions as appropriate and to accept advice when it is offered.
- The commitment to address and resolve differences, if necessary bringing in others to help resolve disputes.
- Staff who are polite, well-mannered and helpful to their colleagues.
- Staff who respect supervisors.
- Senior members of staff who earn the respect of others.

STAFF TRAINING AND DEVELOPMENT

A forward-thinking employer will recognise the importance of staff training to develop individual and team skills, aid motivation and improve staff retention. Staff training may address the following:

- identification of training needs
- planning the delivery of suitable training
- organising training
- checking progress
- assessing skills
- evaluating the benefit of training.

WORKING PRACTICES

There are a range of working practices that may vary in detail from yard to yard, but most yards adopt common principles.

MEETING AND GREETING

Clients and visitors must be greeted politely and quickly. Strangers entering the yard could pose a risk and every yard should have an agreed procedure for visitors.

TAKING MESSAGES

Every message is important and must be recorded and passed on accurately and efficiently.

Written messages should include:

- date and time of call or visit
- name of caller
- name of person they wanted to contact
- message
- action to be taken (i.e. return call)
- telephone number of caller.

All members of staff, to give a professional image of the yard, should adopt a courteous telephone manner.

GRIEVANCE AND DISCIPLINARY PROCEDURES

All employees should be aware of the grievance and disciplinary procedure. Details should include:

- disciplinary rules
- details of whom should be approached if an employee has a grievance
- details of the person to whom an employee can apply if dissatisfied with any disciplinary decision.

STAFF APPRAISALS

Staff appraisals are the opportunity for the employee and supervisor to discuss personal performance and future personal development needs. These meetings can be carried out annually or much more frequently and can be formal, with details being recorded and timescales for achievements agreed, or less formal. These meetings are very important to both employers and employees. It gives both an opportunity to discuss achievement and plan for the future.

QUALITIES OF A GOOD SUPERVISOR

As experience is gained, most employees are keen to take on more responsibilities to enhance their career prospects. This will often include supervising junior members of staff and helping with their training and development. The qualities that a good supervisor should have include:

- selecting safe, efficient and effective ways of doing all routine tasks, and ensuring that staff (including trainees) do it that way
- appreciating that a good relationship with the team is a two-way process and showing authority and sensitivity
- listening, discussing, justifying and yet is always willing to accept improvements
- advising, demonstrating, referring and helping to achieve high individual and team performance
- dealing with problems clearly and pleasantly, including problems with colleagues or with jobs
- being reliable, both from a viewpoint of the employer and other team members; a good supervisor will always do his or her best both for their employer and for the staff and, where their respective needs conflict, the supervisor has to enforce the employer's requirements with tact, loyalty and authority
- being a good communicator
- bringing in change with understanding, clarity and ongoing enforcement
- using authority without giving rise to resentment
- maintaining standards of quality, tidiness and, where appropriate, work rate
- counselling colleagues by listening and helping them to reflect wisely on possible alternative scenarios, yet without doling out 'pat solutions' to others' problems; where appropriate, tactfully encouraging colleagues towards self-help.

REVISION TEST

1. In your workplace:

   (a) Describe the tasks and activities for which you are responsible.

   (b) Describe your daily routine.

   (c) From whom should you obtain advice in relation to specific tasks and activities?

   (d) Which members of staff come to you for advice?

2. Give three ways in which you would develop good working relations with the staff that you supervise.

3. Answer the following questions:

(a) What are the correct procedures for obtaining advice?

(b) What are the risks of not obtaining advice where you are unclear about specific tasks and activities?

(c) Why is appraisal an important part of staff management?

(d) Why is it important to maintain confidentiality within the working environment?

(e) Describe two methods of communicating effectively.

(f) What information should be obtained when taking a telephone message?

4. Give three ways in which you would develop good working relations with the staff that you supervise.

5. List five qualities of a good supervisor.

HEALTH AND SAFETY WHEN WORKING WITH HORSES

This section is about contributing to the health and safety when working with horses.

By studying this section you will have a knowledge and understanding of:

- individual responsibilities for health and safety in the workplace
- health and safety risks in the workplace
- identification of hazards in the workplace and how to deal with them
- evaluation of risks in the workplace
- conforming to safe working practices and checking for risks harmful to self or others
- overview of policies, statements and documentation.

STAFF RESPONSIBILITIES IN RELATION TO HEALTH AND SAFETY

All stable staff have a legal responsibility to conduct themselves in a safe manner with regard and consideration for others. Each member of staff should take responsibility for:

- following safe working practices
- reporting hazards that present a risk
- dealing with low risk hazards (e.g. putting tools and equipment away after use)
- understanding the structure of the organisation and knowing who is responsible for health and safety
- following manufacturer's instructions for the safe use of equipment, materials and products
- ensuring that their personal presentation meets health and safety workplace and legal requirements.

MANAGEMENT OF HEALTH AND SAFETY

Good health and safety in the workplace is fundamental to the efficient operation of a yard. An employer must ensure that:

- working practices are safe
- staff are properly trained
- risks are identified and assessed
- machinery and equipment is maintained and in good condition.

Keeping records is a legal requirement and can be a convenient and sensible way of managing health and safety.

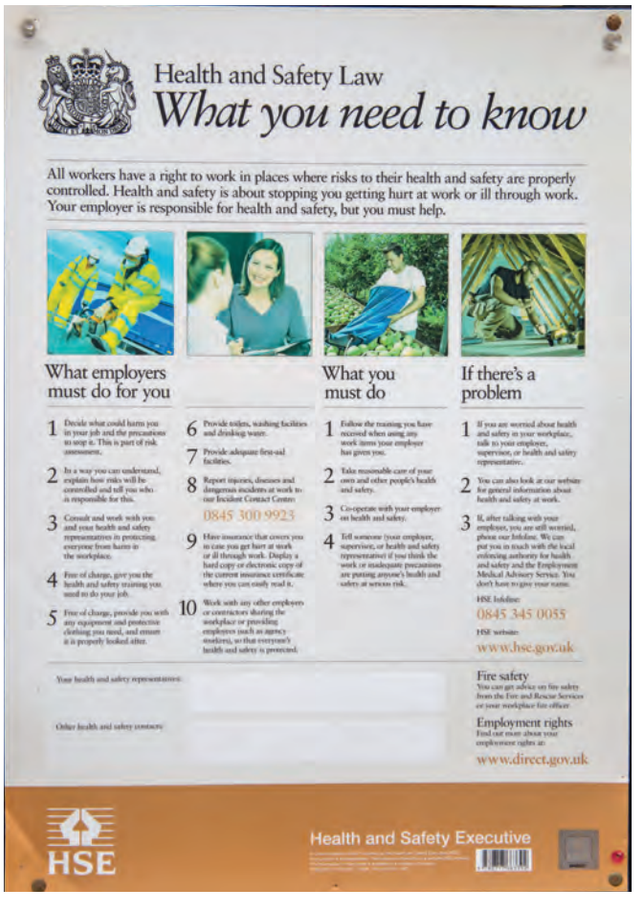
HEALTH AND SAFETY RECORDS AND DOCUMENTATION

Health and safety laws should not be seen as restrictive, but rather as a protection against potential accidents and incidents. Accidents can give rise to personal tragedies as well as being costly to the business in terms of prosecutions, absenteeism and increasing insurance premiums. Businesses should strive to achieve **what is reasonably practical**. In other words, measures taken should be appropriate and in proportion to the business. Crucial to that is the ability to demonstrate what has been done to manage health and safety, and keeping accurate records of the measures taken will help to counter any suggestions of a lack of commitment to health and safety.

A FRAMEWORK FOR A HEALTH AND SAFETY STATEMENT AND POLICY

Employers with five or more employees are required to prepare a written statement of their general policy, organisation and arrangements for the health and safety at work of their employees. However, it is advisable for employers with less than five employees to also do this.

A health and safety statement and policy should bring together guidelines on good working practices, specific legal policies and necessary documents. Aside from a health and safety statement and policy, employers must display a health and safety law poster so that it can be seen by all employees. Full guidance documents are available on line from the British Horseracing Authority, National Trainers Federation and the Thoroughbred Breeders' Association.



The framework for a health and safety policy comprises the following parts:

1. **Statement** – the basic objectives required by law.
   1.1 Other documents – for example, office handbooks or staff handbooks.
2 **The policy** – how to achieve the objectives set out in the document.
   2.1 Roles and responsibilities – who does what
   2.2 Arrangements to make work safe – measures to reduce risk
   2.3 Accidents and emergencies – what to do
   2.4 Monitoring – making sure that all is being done and record-keeping is maintained.

Further details of the content of each part are described below:

1. STATEMENT

This states the commitment of the business to the objectives required for legal compliance. It also contains the standard to which the business will work. The business must, so far as reasonably practicable:

- provide health and safety controls at all levels
- comply with any legislation that applies to what it does
- consult its employees over matters concerning health and safety
- provide and maintain safe equipment and premises
- ensure the safe handling and use of substances
- provide information, instruction, training and supervision for all its employees
- ensure that all those who work for it can safely do what they are asked to do
- provide sufficient resources to maintain safe and healthy working conditions
- do all that is appropriate to protect natural resources in the environment
- review working conditions and revise this policy regularly at not more than three-yearly intervals, and whenever new equipment and/or activities are introduced. This will then be signed by the owner of the business, dated, and the date for review indicated.

1.1 OTHER DOCUMENTS

Those documents which are not directly referred to in the policy, but need to be read in conjunction with it, for example:

- any relevant applicable agreement between the business and the National Trainers Federation and the National Association of Stable Staff
- employee handbook.

2. THE POLICY

This is how to achieve the objectives of the statement. It falls into four parts:

2.1 ROLES AND RESPONSIBILITIES – WHO DOES WHAT

Everyone in the business has a role to play. The management structure of the business needs to be clearly set out so that everyone knows who does what, their responsibilities and obligations, and how they may be contacted. It starts with:

- ultimate legal responsibility – this will be with the owner of the business
- the manager (if any) to whom the owner(s) delegates the management of the policy to see that it is carried out – the manager(s) will direct others in the business; depending on the structure of the business, an owner may in fact be the manager; whoever has this role has legal obligations arising from the policy
- the staff with day-to-day responsibility for implementing the policy – who may, depending on the structure of the business, be the owner, manager, or a supervisor, foreman or secretary; in the specimen policy this is described as the yard foreman; you should adopt the terminology that is used in your business.

It is essential that whoever directs what happens in the business has competence in health and safety matters through experience or training, or appoints someone who is competent to fulfil this role. Where there is no one with the necessary competence then external advisers should be used. The variation in roles should be borne in mind when preparing the policy for the business. A simple diagram setting out the management structure can be helpful.

EMPLOYER'S OBLIGATIONS

These will usually reside with the manager, if there is one, or the owner. They are:

- to keep health and safety records comprising key documents; for example, risk assessments, accident and incident book, sub-contractors' details, employees concerns and action taken, training and induction
- to discuss with employees any health and safety concerns and changes to the policy or procedures – this is a consultation and communication process
- to delegate appropriately – this is the implementation of the policy, ensuring that anyone asked to do something is competent to do it.

EMPLOYEES' OBLIGATIONS

Their obligations are:

- to co-operate with those responsible for health and safety matters
- not to interfere with anything that safeguards health and safety
- to take reasonable care of their own health and safety, and of those affected by anything they do.

2.2 ARRANGEMENTS TO MAKE WORK SAFE – MEASURES TO REDUCE RISK

Horses (particularly Thoroughbreds) are inherently unpredictable, and working in close proximity to them exposes employees of the business and others to the risk of injury. Equine establishments undertake a variety of tasks that have the potential to cause harm. Examples of the main areas of risk in the business should be considered. These are likely to include:

- falls, slips and trips
- handling and riding horses
- plant and machinery
- loose horses.

The business must look at the risks to the health and safety of its employees and to anyone else who may be affected by what it does, and put in place measures to reduce those risks. The way in which the business does that is by providing:

- risk assessments to ensure, as far as reasonably practicable, that all tasks are performed safely
- induction and training
- specific policies required by health and safety law
- guidance on safe working practices
- sub-contractor assessments
- external advisers where needed
- appropriate delegation of tasks
- safe plant and equipment
- COSHH management.

2.3 ACCIDENTS AND EMERGENCIES – WHAT TO DO

This part explains what procedures the business has put in place to deal with:

- first aid and work-related ill health
- emergencies.

2.4 MONITORING – MAKING SURE THAT ALL IS BEING DONE AND RECORD-KEEPING IS MAINTAINED

All records reflecting audits, meetings and reviews should be retained, along with the health and safety statement and policy, which can be checked by the authorities if things go wrong.

Monitoring means 'making sure we are doing all we can'.

Employers should explain how that will be done. It is vital to pick up on any trends and habits leading to near-accidents that might have developed and to ensure they are addressed. A record should be kept of any money you spent in complying with your health and safety obligations.

RISK ASSESSMENT AND HAZARDS

Risk assessments play a major part in maintaining and improving standards of health and safety.

Many aspects of work with horses involve taking decisions that can affect health and safety. Some risk assessments may be simple e.g. whether tack is safe to use. Others may be more complex and could include staff training needs; types of equipment (e.g. clippers), how they are to be used and by whom; suitability of horses for particular riders and activities. There are many potential hazards in a stable yard including:

- chemicals – pesticides and weed killers should be clearly marked and stored securely
- machinery – strimmers and clippers should only be used by trained personnel; a circuit breaker must be used
- horses – staff must be properly trained in the handling and movement of horses
- equipment – broken tack and equipment could cause accidents or injury.

Employers should record significant risks and detail the measures that are in place to minimise that risk. In preparing a risk assessment the following steps should be taken:

- Look for the hazards.
- Decide who might be harmed and how.
- Evaluate the risks arising from the hazards and take action to reduce or control them.
- Record your findings (i.e. what you are going to do to control the risks).
- Review your assessments and revise if necessary (i.e. if you have reason to believe that they are no longer valid [after an accident?] or there has been a significant change in the activity, conditions or personnel).

ADDITIONAL CONSIDERATIONS

New or expectant mothers require a further specific assessment of risk to be performed. This must take into account the additional risks posed by work practices, conditions or physical, chemical and biological agents.

A further group requiring specific risk assessment is that of young persons (under the age of 18). This assessment would involve looking at the existing risk assessment and seeing if any further actions are required in order to take into account the inexperience, immaturity and lack of awareness of risk etc. If the person is under minimum school-leaving age, the assessment must be communicated to their parent or guardian.

Yet another aspect of risk assessment covered within the management regulations is that of fire.

OTHER LEGISLATION

Other legislation that specifically requires risk assessment is as follows:

The Manual Handling Operations Regulations 1992 – requires the assessment of activities that involve a risk of injury where these cannot be avoided altogether

The Personal Protective Equipment at Work Regulations 1992 – to determine whether the PPE is suitable for the risks that cannot be avoided by other means

The Health and Safety (Display Screen Equipment) Regulations 1992 – to assess work-stations for health and safety risks to which users/operators are exposed

The Control of Substances Hazardous to Health (COSHH) Regulations 2002 – to identify risk in order to determine the measures to be taken to prevent or control exposure

The Control of Asbestos Regulations 2006 – to identify the presence and type of asbestos and the degree of exposure and reduce said exposure to as low as is reasonably practicable

The Control of Lead at Work Regulations 1998 – to assess whether exposure of employees is liable to be significant

The Noise at Work Regulations 2005 – to assess noise levels where it is suspected that they may reach certain levels (e.g. the use of machinery).

MANUAL HANDLING

This is one of the highest risk areas. Most injuries affect the back, however upper and lower limbs are also at risk. Manual handling covers the lifting, carrying, pulling and pushing of items at work. All objects that are moved in these ways are included, whatever their size or weight, though there is clearly a greater risk from moving heavier or bulkier items.

When conducting these risk assessments, there are four main factors to consider:

- the **task**
- the **individual**
- the **load**
- the **environment**.

It is possible to conduct generic assessments (i.e. those that are common to most employees, activities and sites), though these must of course be relevant to the people, conditions and circumstances involved. They must also identify all hazards and the control measures required to minimise risk (see the BHA, NTF and TBA websites to download the HSE-recommended Manual Handling Chart [MAC]).

The guidelines for manual handling suggest that in the first instance, it should be avoided altogether (i.e. by mechanical means). Where this is not possible, other controls need to be applied, such as reducing the load or two-man lifting. A typical example in the horse-related industry would be by using a wheelbarrow instead of a muck-sack when moving waste to the muck pit or trailer.

Well-dressed rider

PERSONAL PROTECTIVE EQUIPMENT (PPE)

A skull cap has to be worn at all times when mounted. This is required for all staff in licensed trainer's yards under BHA rules. The criteria for skull caps are set out in the Rules of Racing.

The risk assessment concerning the riding of horses should take account of both the activity and the ability of the rider when choosing the appropriate safety vest.

If considered appropriate, it is also advisable that skull caps and safety vests are worn for clipping, leading, long-reining, stalls practice, lungeing, loading, teasing or working in the covering barn. The wearing of protective footwear may be considered for many activities carried out on a stud. The question of what other PPE should be provided arises directly from the risk assessments.

ACCIDENTS AND INJURIES

First aid provision in the workplace should include:

- a suitably stocked first aid kit
- an appointed person to take charge of first aid arrangements
- provision of information to employees of first aid arrangements.

The contents of the first aid kit should reflect the potential needs identified from the risk assessments. Suggested contents lists are available from the Health and Safety Executive.

The Health and Safety Executive guidance suggests provision of a minimum of one first aider per 50 employees at all times whilst people are at work. These first aiders should be trained to an appropriate standard taking into consideration the types of injury that might occur. However, there is no hard and fast rule as to how many first aiders should be provided. This should be assessed in light of all the circumstances. For example, are there likely to be several areas (perhaps which are not close by) where people are working at any one time? There will also be a need to increase provision to cover absences.

Despite the fact that the owner's legal obligation does not extend to providing first aid for non-employees, the Health and Safety Executive strongly recommends that consideration is given to non-employees when considering first aid provisions. All employees should be aware of the grid reference to use for the air ambulance service. This should be displayed prominently by way of reminder for employees in case the need should occur.

FIRE PRECAUTIONS AND FIRE DRILL

A risk assessment covering fire hazards is required for all workplaces.

Further information on the Regulatory Reform (Fire Safety) Order 2005 can be found at www.communities.gov.uk including a series of guides relevant to workplaces. Whilst this legislation applies to England and Wales, similar requirements will apply to Northern Ireland and Scotland respectively. A fire risk assessment should take into account:

- the size and layout of the workplace
- the work activity undertaken
- any equipment or substances being stored
- the number of people likely to be present at any one time, including disabled persons, those with other special needs and visitors.

Arrangements should be made for:

Consulting	the workforce about the arrangements in place.
Fire-fighting equipment	**must** be easily accessible. **Must** be labelled, showing the extinguisher type and suitability/operating instructions/'in date' annual test record. Fire smothering blankets are also recommended and are particularly useful in kitchens/rest rooms where hot food is prepared.
Trained nominated persons	to undertake special roles such as fire wardens or how to operate the fire-fighting equipment.
Emergency routes and exits	**must** be clearly indicated, **must** be free from obstructions, and should be lit where necessary. Where possible, these should lead directly to a place of safety.
Evacuation	There **must** be a clear procedure for people and horses.
Fire instruction notices	Instructions on what to do in the event of a fire **must** be displayed on the noticeboard and/or elsewhere, including emergency contact numbers. Any signs displayed should comply with safety sign size, shape and colour requirements.
Training for staff	All staff **must** be trained on all these points, and **must** know how to raise the alarm.
Fire drills	**must** be practised at least annually, preferably six monthly. It is not necessary to actually sound the alarm, which might upset the horses. Placing obstacles in the way to represent fire spots can make the drill as realistic as possible. Records of dates/time/persons present **must** be kept.


No smoking.
No naked
flames.

SAMPLE HEALTH AND SAFETY POLICY

(BUSINESS NAME)

PART 1

HEALTH AND SAFETY STATEMENT

This is the health and safety statement of _____

The business conducts what it does in a way which recognises its legal obligations in protecting the environment and ensuring the health, safety and welfare of its employees and anyone who may be affected by what it does.

It encourages all those who work with it to take part in carrying out its health and safety policy.

It will, so far as reasonably practicable:

- provide health and safety controls at all levels
- comply with any legislation that applies to what it does
- consult its employees over matters concerning health and safety
- provide and maintain safe equipment and premises
- ensure the safe handling and use of substances
- provide information, instruction, training and supervision for all its employees
- ensure that all those who work for it can safely do what they are asked to do
- provide sufficient resources to maintain safe and healthy working conditions
- do all that is appropriate to protect natural resources and the environment
- review working conditions and revise this policy regularly at no more than three-yearly intervals, and whenever new equipment and/or activities are introduced.

Signed:_____

(Owner) Date: _____

Reviewed: _____

(BUSINESS NAME)

PART 2

HEALTH AND SAFETY POLICY

This health and safety policy sets out the basis on which the business manages its statutory obligations.

The employer may decide that other documents are also relevant.

These should be read together and taken into account when considering the way in which the business meets its obligations.

(BUSINESS NAME)

PART 3

HEALTH AND SAFETY POLICY

1 ROLES AND RESPONSIBILITIES

Everyone in the business has a role to play in ensuring that it creates and maintains a satisfactory place in which to work, a place which is safe and does not harm others or the environment.

MANAGEMENT OF THE BUSINESS

1.1 The owner

Overall and final responsibility rests with the owner of the business.

1.2 The manager

Is responsible for the management and day-to-day implementation of this policy. The manager has authority to stop work or any activity if health and safety standards are not being followed.

The manager's obligations are:

1 to keep the health and safety records, including:

- risk assessments and safe working procedures
- use of subcontractors
- records of all accidents, near accidents, hazard reports and cases of work-related ill health
- concerns raised over health and safety, and a record of action taken
- a record of all health and safety training of employees
- a record of the induction of all new employees, and to ensure that they are introduced to the safe working practices of the business.

2 to discuss with employees any health and safety concerns, changes to this policy or procedures, and to ensure staff are:

- adequately trained
- aware of fire and evacuation procedures
- familiar with the whereabouts of first aid facilities and know who and where first aiders are.

3 to ensure tasks are delegated only to appropriately trained or competent people, particularly those:

- working alone
- working away from the business
- undertaking manual or maintenance work
- operating machinery or driving on business.

1.3 Nominated person

May assist the manager in the day-to-day implementation of the policy, to ensure that:

- all accidents, near accidents and hazard reports are recorded
- accident investigations are undertaken and recorded
- staff are told of any change in working practices
- equipment faults are investigated and corrected
- any concerns over work-related ill health are investigated
- training and induction of staff is implemented
- staff abide by their health and safety obligations, and maintain good workplace standards
- any tasks are delegated to appropriately trained or competent people.

1.4 Staff representation and consultation

Employees will be consulted on changes of policy or procedure that affect their health and safety. Staff representatives will be elected to assist in management communication and consultation. They will attend any discussions which include health and safety.

1.5 Employees

It is in everyone's interest to co-operate on health and safety matters and not to interfere with anything that has been provided to safeguard health and safety arrangements. All employees are expected to comply with all aspects of this policy. They must take reasonable care for their own safety and that of others who may be affected by what they do.

2 ARRANGEMENTS TO MAKE WORK SAFE

Thoroughbred horses in particular are inherently unpredictable. Working in close proximity to them carries the risk of injury.

Examples are:

- falls
- handling and contact with horses
- loose horses
- manual handling, in particular lifting heavy objects
- contact with plant and machinery
- slips and trips
- fire
- contact with electricity
- movement of vehicles in the workplace and car parks.

The business will look at the risks to the health and safety of its employees and to anyone else who may be affected by what it does, and put in place measures to reduce those risks. The way in which that is done is as follows:

2.1 Specific policies

- Asbestos
- Driving
- Environment protection
- New and expectant mothers, young people and disabled people
- Personal protective equipment
- Smoking, alcohol and substance abuse
- Visitors
- Waste disposal
- Working alone
- Working at night.

These are set out along with guidance on good working practice.

2.2 Risk assessments

To have a safe place in which to work requires the business to assess the work employees are asked to do to find out if there is any risk in doing it. That risk has to be measured and arrangements have to be in place to manage it so that anyone asked to do the work has been suitably trained or has appropriate experience. The findings of those risk assessments, the way in which the risk has been measured, and the safe system of work that will meet it, are recorded and retained.

Actions identified in the risk assessments are, so far as is reasonably practicable, implemented and monitored so that risk is reduced to an acceptable level.

2.2.1 Delegation of work

The business will ensure that anyone asked to undertake the work has the necessary training or experience.

2.3 Subcontractors

Subcontractors may be appointed to undertake specific work, but in doing so the business does not avoid its health and safety responsibilities. The business should satisfy itself prior to their use as to their experience, ability and whether or not they are insured.

2.4 External advisers

The business may enlist the services of specialist external health and safety consultants to assist in specialist areas of health and safety to fulfil its needs for appropriate, competent or responsible persons where required by law, and where no-one within the business can fulfil that role. The following external advisers are presently retained where there is no internal resource:

Health and Safety Management/Advisor: (Name, contact details)
Fire extinguishers: (Name, contact details)
Electrical: (Name, contact details)
Asbestos: (Name, contact details)

2.5 Induction and training

The business will provide training in health and safety matters to all employees.

It will ensure that employee health and safety induction is undertaken, which will include reference to this policy document. The induction will be acknowledged by signature by the employee, and retained by the business.

2.6 Safe equipment, premises and machinery

All equipment and machinery requiring maintenance will be identified, effective maintenance procedures drawn up and such procedures will be implemented, recorded and monitored. All machinery and equipment will comply with the health and safety policy of the business.

2.7 Safe handling and use of substances

All substances which need assessment for the Control of Substances Hazardous to Health (COSHH) will be identified and the results of such assessments notified to employees. The business will ensure that such substances are used safely and that their use is reviewed and recorded.

3 ACCIDENTS, EMERGENCIES, FIRE AND EVACUATION, FIRST AID AND WORK-RELATED ILL HEALTH

3.1 Accidents

All accidents which are notifiable under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) will be recorded in the accident book and reported following the correct reporting procedure. All other accidents, near accidents and cases of work-related ill health will be recorded in the accident book. The accident book will be analysed to identify signs or trends, and action taken where immediately necessary to prevent reoccurrence where possible.

3.2 Emergencies

In an emergency, the priorities are:

- to ensure the safety of yourself and others
- to ensure the safety of the horses
- to minimise damage to buildings and machinery.

3.3 Fire

In the event of fire:

- raise the alarm
- dial 999
- direct all persons to fire assembly points.

Do not put yourself or others at risk. If in doubt, get out.

If you hear the fire alarm sound:

- switch off any machinery you are operating, unless instructed otherwise or it puts you or others in danger
- evacuate through the nearest clear external exit
- walk, do not run, to the nearest fire assembly point or to a location as directed
- do not return for personal belongings
- be ready to report your name when you reach the fire assembly point.

In the event of a minor fire use the appropriate fire-fighting equipment.

DO NOT USE WATER ON ELECTRICAL FIRES.

Do not continue to fight a fire if:

- it continues to grow
- it becomes too dangerous
- there is any possibility of the evacuation route being cut off
- you have not been trained to use fire-fighting equipment. All employees are responsible for ensuring that fire escape routes and access for emergency vehicles to the premises are kept clear of obstruction at all times.

The business acknowledges the risk to humans and animals that may arise from fire. To meet and address that risk it has appointed the manager as the person responsible. They will carry out risk assessments and regularly check general fire safety. Horses are normally terrified of fire and smoke and tend to panic. This is an added reason to be aware of the risks and know the drill. Regular fire practices will take place and all employees are obliged to co-operate in these. An evacuation for any reason other than fire will follow the same procedures outlined above.

3.4 First aid and work-related ill health

The business will complete a first aid needs assessment and ensure that sufficient first aiders are provided. A list of trained first aiders and the location(s) of the first aid box(es) will be displayed where it can be seen by all, and audited annually.

The business will recognise and take appropriate action in respect of work-related ill health, and keep a record. Any concerns over work-related ill health will be reported to the manager.

4 MONITORING

The business will:

- make sure that it is doing all it can to fulfil this policy
- ensure that opportunity is given to raise and discuss any concerns about health and safety
- ensure that a record of those concerns is retained.

5 REPORTING CONCERNS

To express in confidence any concerns about health and safety please contact the manager. The statement and any revision to it should be brought to the attention of all employees.

Staff, or those with full details, should always report incidents or accidents and make sure that it is entered into the accident book.

REVISION TEST

1. List the PPE that should be used when working with horses.

2. What steps should be followed when carrying out a risk assessment?

3. List the key areas to look at when carrying out a manual handling risk assessment.

4. For the yard where you work, describe the arrangements for:

   (a) fire prevention

   (b) the fire drill.

5. Give three examples of electrical hazards or equipment that are found on the yard where you work. What control measures are in place to reduce the risk posed by these hazards?

6. What duties does the employer have regarding first aid in the workplace?

7. List five responsibilities that staff have in relation to health and safety on the yard.

8. An employer must ensure that:

   (a) working practices are

   (b) staff are properly

   (c) are identified and assessed

   (d) and equipment is maintained and in condition.

NOTES:

Make Your Passion

Your Work

For information on careers, jobs and training in horseracing

Job profiles • Career case studies • Live job board
Education/curriculum resources • Taster days

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