

Understanding Your Horse
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UNDERSTANDING YOUR HORSE

Your horse is a wonderfully sensitive, understanding and intelligent creature. He is able to be a marvellous companion and give very good service, provided you make an effort to understand him and thereby enable yourself to satisfy his needs and maintain him in a healthy condition. Reward his compliance and loyalty with effort and compassion and you will reap the rewards.

We start this quest for understanding with the early days of the horse on this earth.

***Eohippus* and the evolution of your horse**

The horse pre-dates man as an inhabitant of this earth by a mere 50 million years or more, at best estimates. The first appearance of a true horse appears from fossil evidence to have been that of *Eohippus*, the 'dawn horse'. This small, fox-terrier-sized mammal appeared in the Eocene period, about 70 million years ago. This early ancestor of modern horses, also called *Hyracotherium*, had four functional toes on each fore foot and three on each hind foot. The feet were padded and were probably adapted for living on soft or marshy ground. The molar teeth were low-crowned, 6-cusped and probably suited to browsing on soft and succulent herbage and fruits. The animal's environment was probably forest or similar, where cover was easily sought, aiding evasion of predators.

Fossil evidence shows that the equine ancestral population progressed evolutionarily to increase in size. The next representative found was *Miohippus* or *Mesohippus*. He stood two feet high at the shoulders but was still, apparently, a forest-dweller, living on soft vegetation that he could browse. This stage occurred about 45 million years ago, in the *Oligocene* period and he had only three toes on each foot.

In the *Miocene* period, open plains supplying rough grasses and herbs became the home of early horse ancestors. Cover was sparse, so cursorial specialisation to evade predators became a survival factor. Eyes were positioned to allow a near-360 degree vision, to alert the creature to the approach of predators. High-crowned molar teeth appeared and one toe became dominant. *Merychippus* and *Parahippus* are names given by evolutionists to these forms. These 'horses' stood four feet high at the shoulder. Hooves started to appear, an excellent adaptation to the hard surface of the plains.

About 10 million years ago, horse ancestors became the contemporaries of the early ancestors of man. This was the *Pliocene* period and saw *Hipparion* and other forms. *Hipparion* was about the size of a pony, was fast-running and lightly built. This form was widespread over the Northern Hemisphere. During the period, the tendency was to the single toe we see today, protected by a hoof on each foot.

By the beginning of the Ice Age, over a million years ago, horses with single toes appeared world-wide, except in Australasia. Zebras and Asses also appeared in the Old World and a late ancestor of the horse still survives today - Prezwalski's horse - which lived wild until very recently, in the Steppes of Central Asia. There is a re-colonisation programme in progress, which hopes to restore a wild population, from zoo-bred individuals.

About a million years ago, at about the same time as early man-forms appeared (*Pleistocene* period), the genus *Equus* made its appearance. This is basically the modern horse. *Equus caballus* is our modern domesticated horse and originated on the North American continent.

After the Ice Ages, horses, among other large mammals, became extinct in North America, for unknown reasons. As far as we know, that part of the world awaited re-introduction of horses by human agency, in later times.

The Present

Throughout these evolutionary stages, we can imagine the horse's physiology and behaviour adapting to changing needs, until we see the horse as he now is. He is adapted in evolutionary terms to grazing selectively from rough grasses and herbage. He behaves as part of a herd, with rapid group evasion responses (i.e. short periods of very fast escape). He has feet designed to cope with hard wear and tear (the hooves of plains horses in the wild maintain conformation and perfect balance, both side-to-side and front-to-back, owing to the wear and growth characteristics typical of this life-style).

Domestication

How is all this relevant to our management of horses in a domesticated situation? There are really three main headings under which to consider this topic:

Nutrition, Locomotion and Behaviour.

Domestication of animals began very late, perhaps up to 5,000 years ago only, leaving no time in evolutionary terms for the horse to adapt to this change. We must therefore temper our management with wisdom and understanding of evolutionary factors, if we are to keep our horses healthy and happy.

That domestication came late in the case of the horse (most farm animals and 'pets' were domesticated before the horse, during *Neolithic* times or 'New Stone Age'), is probably on account of its size, its strength, its speed and its ferocity if trapped. It must have appeared a very unlikely companion at first. However, despite these factors, the horse did finally take its place among our animal friends and revolutionised human society and behaviour. To me it is no small miracle that this late comer is perhaps one of our most malleable, willing, loyal animal companions. He has pulled our vehicles, taken us to war, ploughed our fields, carried our loads, provided personal transport and, in later times, provided great pleasure in sport and leisure. This willingness to serve us places a heavy responsibility upon us to care for his needs, his feelings and his comfort. The horse in 'captivity' is very far-removed from his evolutionary niche and, as such, very dependent upon us for his food, shelter and wellbeing. The unique service this animal provides for us, demands a special relationship in return. However, all too often, we fail in this duty, albeit unwittingly.

Let us take an overview of the ways in which we may compromise our horse's wellbeing and health, by overlooking evolutionary factors.

Nutrition

Instead of plains grasses and herbs, we feed farmed grass and forage (often artificially-fertilised), along with concentrate [feeds](#) in the form of nuts, cubes, coarse mixes, straight cereals, etc. To replace the minerals and vitamins a horse would normally derive from soil intake and from herbage, we supplement the ration with straight minerals, chelated minerals, artificial vitamins, [patent supplements](#) of all kinds (some even containing animal material) and [herbal supplements](#) (concocted with greater profit motivation than wisdom and knowledge). The result is a digestion process not suited to the evolved digestive

system of the horse and a consequently altered metabolism. Is it any wonder the immune system, tissue strength and physical strength of our modern horse suffer?

Unsuitable diets will also impinge on tooth formation and on [dental health](#).

Locomotion

The wild horse is a grazing animal, with constant alertness and hair-trigger reflexes to avoid predation. He is constantly on the move in the wild, roaming the plains for a variety of foods and interacting with other members of the herd, in play and fight rituals. He has periods of rapid movement and periods of grazing. He is even able to sleep on the hoof, owing to an adaptation of limb anatomy to support his weight when he is dozing. In the domestic situation, we confine this creature often singly in small paddocks or in stables or stalls, allowing regular periods of exercise or work interspersed by long periods of more or less total inactivity. We also work him too hard too young, with resultant stresses on his musculo-skeletal system, which is then not up to the tasks we demand of it.

We protect his hooves with [metal shoes](#), which rely upon human skills to be accurately applied and non-damaging. The capacity for natural shaping of the hoof, by wear and tear forces under normal patterns of activity, is lost. The circulation of the hoof can be impaired by reduced flexibility of structure. The art of correct shoeing is vital to healthy feet, limbs and horse as a whole. Keeping horses without shoeing (barefoot) is a more modern development, which has arisen in reaction to the ills brought on by shoeing and which must be monitored carefully.

In order to harness the horse's work capability, we apply various forms of equipment: collars, [saddles](#), bridles etc. It is inevitable that these will affect his way of going and it stands to reason that the design and fit of such equipment is of paramount importance to health, wellbeing and locomotor efficiency. Sadly, bad saddle-fitting is rife.

Behaviour

By domestication, we impinge upon a horse's natural behavioural patterns too. Natural herd interactive behaviour is disallowed by single housing and single working. Horses paying attention to each other during 'use' is not conducive to heeding human instruction or the production of useful work. The horse's 'exercise routines', in a herd situation on the plains, are not safe in the confines of a field. Dominance struggles are not viewed sympathetically, when one's

own perhaps more submissive, individual is injured by another horse putting it in its place. However, we tend to ignore the mutual interactions that enhance a general sense of well-being in our horses, such as mutual grooming, formal and informal greetings, respect for 'space' and so on. These social niceties of the horse world should be studied and should guide us in our approach to and handling of horses.

Summary

We owe it to our horses to understand their evolutionary development and how it has moulded them into today's animal. Because we ask so much of them, we must give much in return. Ensuring that stabling, grazing, riding, saddle and tack, [feeding](#) and interaction are broadly compatible with their evolutionary needs is the least we can do.

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See also: <http://www.naturalfeeding.co.uk>

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