



## Introduction to Lifestyle

Horse and man have had a relationship for a long time. Man has devised many methods of subduing the large animal and making it his servant. During this process many aspects of the horse's life-style have deteriorated. In their natural



habitat horses have a life expectancy of 30 to 40 years and more. With all the advances of modern medicine, all the luxuries we are able to surround our equine friends with, seldom do they reach this age in our care.

One of the things that is little understood and followed upon is the fact that the horse is a prey animal. All his survival instincts and all of his reactions to nature and man are closely related to this single fact. Humans are predators, horses prey. While man often interferes with the horse's upbringing and thus changes some of the aspects of their mutual relationship (I am thinking here of imprinting), the basic survival instincts cannot be taken out of a horse. It may not be obvious at first, but the more domesticated a horse becomes, the more we put our own ideas of comfort onto these very different species, the less well they fare.

For thousands of years the horse was of great importance to mankind: he was worshipped, provided food to the people, and was used for transporta-

tion. He was the most revered animal in human domestication. Yet, his life expectancy has shortened since he entered a "civilized" lifestyle. So somehow the domesticated environmental surroundings must be so bad, that horses get sick early on and have to be euthanized at the best time of their lives because they cannot be saved.



It may not even occur to most horse owners that their very care is responsible for the demise of their horses. When we start to open

our minds to the **inherent needs** of our equine partners, we will be able to give them better, longer and healthier lives on our side. This may well be initially a rather unsettling thought process, but please remember that all that is taught here is to make the life of equines better. This is the main goal.

The connections between the entire equine organism on one side and the given environmental situation on the other are rather complex and often complicated. We will try to shed more light on the details and how every part of management for our domesticated equines needs to be integrated with their inherent needs. These needs have been developed over millions of years and can not be ignored without dire consequences for the health of the horse.



All living creatures are the result of adapting to the environment for millions of years. Every organism is a conglomerate of chemical processes which interact with each other. In order to keep any living ani-



mal healthy in every aspect, it is important to know about the environmental adaptations this specific animal had to undergo throughout evolution. Only when we observe and obey these needs will it be possible to offer our equine partner optimal living conditions.

Horses can be found in very different natural environments: the rocky and often frozen ground of Iceland, lush meadows in Europe, in savannahs of all continents and in the flooded deltas of the river Don and the Rhone (Camarque), even in the rocky deserts of Africa and North America. As varied as the countries are as varied are the terrain, climatic and nutritional circumstances. Nevertheless, all these horses are the same in terms of psychology and biology. Their hooves are neither different in anatomy nor in function. There must be similarities in all these horses that override the environmental differences.

For the complete understanding of all the parts of this course it is important to have some detailed information about the biological needs of the horse, dictated by millions of years of evolution.

Selected breeding can alter some of the traits in horses like color, size and conformation.



### **But it cannot change anatomy and function.**



#### **Living in a Herd**

All equines typically live in a herd. The herd provides security and social structure for youngsters to learn their place in the herd. Every herd has a hierarchy and the herd members adhere to the same. Even so every single herd member will often challenge the higher



ranking horse for his position.

It is not unusual to find mares or geldings standing watch over the sleeping foals. There is the occasional fight, but if gets out of hand, senior members of the herd will step in to break it up.

In general, horses and ponies are happiest when living in a herd situation. It is the most natural lifestyle for them, as in the wild, most herbivores live in large herds for protection against predators. Although these days most horses having nothing to fear from large predators, unfortunately nature tells



them that there might still be a saber-toothed tiger lurking behind that big bush, waiting to pounce, and for this reason they are more relaxed in a group situation. They are also highly sociable animals, and participate in play, mutual grooming and fly-swatting, which helps keep their coats healthy and gives them respite from irritating blood-sucking creatures.

There are other advantages to living in a herd, especially at foaling time. When a mare gives birth to a foal, she and the foal are at their most vulnerable, and herds will gather around her, shielding her and her scent





from potential predators. The foal then learns the rules very quickly from its mother and the rest of the herd, assisting in the educational process of the correct way to behave, and where its place is in the ranking system that is always found in groups of horses and ponies that live in the same herd. They learn about personal space, play behavior and when enough is enough! These behaviors often go unlearned in foals that have to be hand-reared, and they can often become unmanageable, as they have not learned the correct way to behave from their mothers or the other herd members.



A healthy breeding herd will always be headed by a stallion, but the day to day 'running' of the herd will often be the task of a dominant female, the matriarch. Although the stallion will usually dictate where the herd goes, the dominant mare will head the pecking order of the herd. The hierarchy of the herd is not set permanently, but changes over time as herd members grow older and new herd members arrive.

In most modern 'herds', where different owners keep their horses on the same land, it is unlikely that this group will contain a stallion, yet the hierarchy will exist, no matter the sex of the animals in the group. Although mares will often assume dominance over geldings, there are no hard and fast rules over where the hierarchy lies. Often it is the smallest and oldest pony in the field who is the 'boss', even exerting dominance over a horse twice its size.

Ponies and horses usually exhibit 'pair bonding' within the group, where the same two animals will spend the majority of time in each other's company, grooming, tail swatting, playing with each other, or just grazing nearby.

### Natural Nutrition

Horses are designed to be out grazing on the savannah, free from negative stress, trickle feeding for most of the day on grasses, weeds and herbs. A variety of plants is important to the horse's well-being. The horse will instinctively choose the correct plant when foraging. In nature horses will cover many miles to find the exact right plant and mineral that they need.

### Body Position

The horse's natural body position is with the neck down and stretched forward. This is true for most of the day while grazing, but as well for moving and dozing while standing. This position allows the horse to carry most of the weight on the forehand, which is the way it was designed to do.



### Water

A horse in his natural environment will spend time each day with his hooves submerged in water while it drinks, plays, cools off, etc. As a consequence, the horse's hooves have evolved to require water to his

hooves daily to prevent them from drying out and keep them elastic and supple. They do not need any fat or grease to keep their hooves supple, just water.



### Resting Places

When resting horses are most comfortable in a place that is out of the wind, but offers a good all around view of the surroundings, so that flight may always be an option.



## Natural Surroundings

Equines live in their natural surroundings in different parts of the world: in Iceland on hard, rocky and often frozen ground; in Europe and much of the world in lush pastures and vast grass lands; in the flooded deltas of the rivers Don and Rhone; and in the rocky deserts of Africa and the Americas.

Climate, terrain and availability of various feeds differ greatly. Despite the difference in their environment, equines around the world have the same psychology and anatomy. Therefore there must be some common factors that dominate those differences and are everywhere the same. At the same time these must be very different from conventional horse husbandry. Let's look at some of these differences and how they influence the entire organism of the horse.

In their natural environment horses are exposed to the elements at all times. In general weather changes constantly and gradually, sometimes a lot, sometimes little, but it changes nevertheless. The animals are prepared for this. Even when the temperature changes as much as 60°F within 24 hours, the equine body can deal with this without getting sick. All the while the internal temperature has to stay around 100°F. Otherwise the chemical processes of the metabolism cannot function.

Over millions of years the skin of the horse developed several sensitive mechanisms to maintain a constant internal temperature despite external temperature changes. The horse's main problem is to dissipate heat generated through muscle activity. In comparison to the horse's body mass, he has a relatively small surface which can radiate the body heat.

The primary seasonal changes - Winter and Summer - are taken care of by a change of coat, which is shorter and thinner during the warmer months, thicker and longer during the colder season.



Normal temperature: The hairs lay flat





Cold temperature: The muscles at the base of the hair (erector pili muscles) raise the hair to thicken the insulating properties of the skin, thus avoiding a drop of the internal temperature. The blood vessels are contracted to avoid a cooling of the blood through exposure to the surface temperature.



Warm temperature: To lower the internal temperature, the blood vessels expand, transporting blood to the surface of the body where it can cool. The hair is flat against the body to diminish the insulating properties of the skin.

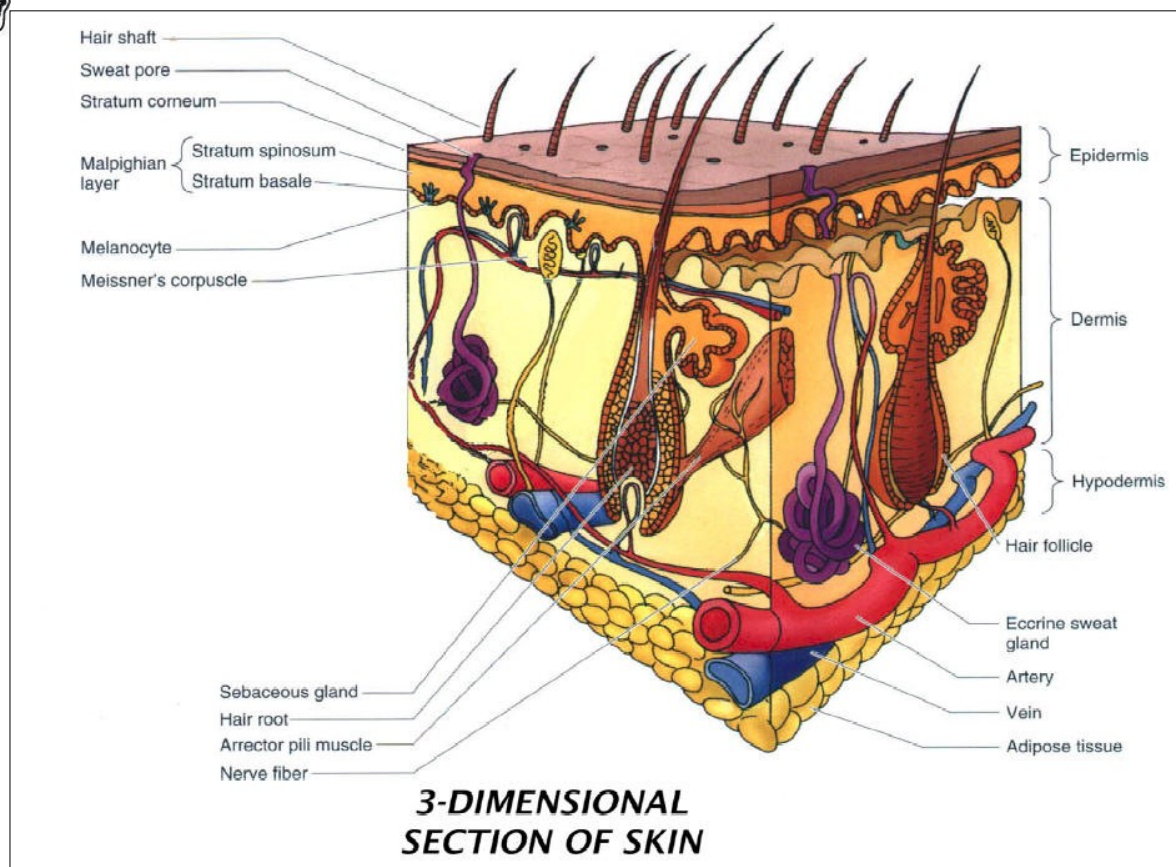


As the previous pictures show, the daily changes in temperature can be warded off by raising and lowering the coat and by dilating and contracting the blood vessels. Muscles are capable of working only if they are trained. In a natural environment, this is always the case. If the dilation of the blood vessels and the diminishing of the insulation is not enough, the horse will produce sweat to get an additional cooling effect through evaporation on the surface. Once the regular body temperature is achieved, production of sweat will cease. The direction of hair will change according to the movement of the surrounding air, so that the sweat may dry off quickly and the horse is no longer getting cooled by the sweat.



These components make up the thermoregulatory properties of the horse:

- 1.) The skin is an insulator because of its thickness
- 2.) The coat changes twice a year, adapts to seasonal changes
- 3.) The horse can raise, lower or change direction of the hair in his coat
- 4.) The arteries in the skin can be dilated or constricted.
- 5.) Sweat glands secrete fluid
- 6.) Shivering is a regulatory mechanism as well. Together with movement or instead of movement, this will keep the internal temperature of the horse steady.



## Snow on a winter coat in natural boarding

Here is what Lisa Huhn, Canada has to say on the subject:

Living outside....all year round? Most people don't have a problem with that and claim to do it....'except' when it's too cold, or too hot, too many bugs, too windy, too wet...too dry, too humid...etc...or 'we just bring them in at night'.

We live in Northern New Brunswick, Canada. The winters are long, cold and very humid. LOTS of snow, freezing rain, ice pellets, slushy rain, slushy



snow, with extreme fluctuations in temperature.....all in one day!!

The number one concern of horse owners is the winter. Not my favorite season but the horses love the winter. No pesky biting bugs, plenty of white stuff to make 'snow angels' and when you have a custom fitted fur coat it's not too hot and not too cold.

A healthy natural horse can and does adapt to any weather presented to him. He is made to do so. Living outside gives the horse all the

necessary 'stimulus' they need to produce an incredible winter coat. Exposure to the elements and the changing hours of sunshine per day triggers all those physiological changes to take place. This innate programming has





been present in the horse for millions of years.

There are different ways the horse adapts and deals with the changing seasons. It has to start with being outside 24/7 all year round and being exposed to the environment in which they live. In the fall, we notice an increase in the amount of hay they eat and even how they eat. They follow nature's plan by putting on more fat for the winter and building a brand new winter coat.

If you have ever seen a natural winter coat you would never think that they could ever get cold....or wet.

A thick, soft under coat is formed like that of a seal with a job to 'seal' out moisture as well as provide excellent insulation. (You can even warm your hands in their fur) The hairs in the top coat are longer and have the job of shedding excess moisture to prevent leaking through to the skin. The muscles in the skin raise and lower the hairs to allow for more or less air passage. (Similar to the way those little hairs on the back of our neck can raise).

Riding in the winter is easy....saddle up and go....make sure breathing is normal as usual and put the horse back out. They usually will take a roll in the snow (or you can put out shavings /straw pile for rolling) shake and fluff out and continue on their merry way...eating and moving. They dry very quickly. The horses will even sweat themselves up at times when playing hard. They are steaming like crazy...and will just roll and shake it off the skin.

The health benefits of living naturally are absolutely essential. This helps to ensure a healthy functioning foot, a healthy body from increasing movement, as well as spiritual health.

Freedom of choice, is good for the horses' emotional and spiritual well being. We have a great run in shelter. In a snow storm you may expect them to chose to be inside.....but they don't. Their choice is obvious. They remain outside.

If the horse evolved as an animal of prey, then it makes sense that his instinct would not agree to put him in a place where he cannot see (or flee) potential 'dangers'. We know that when given the freedom to chose, the horse is happier and healthier. It may not be what we humans would chose to do.....but we respect 'mother nature' to take care of her own. If instinct says too put your butt to the wind and 'honker down' for the storm...who are we to question. We accept that, to be a whole horse, his mind, body and spirit needs to be out in open air.

Some horses can fool their owners to thinking they 'like' the barn and want to go in. They stand at the gate (at feeding time) to come in. They come in and get a reward...usually the high light of their day. It can take up to a week to wean them off the gate...but once you do...they will never look back. Feed more hay and spread it around a lot more than you think to keep them busy foraging...this keeps the mind calm.

## **Movement**

By nature horses are selective foragers. Horses without living restrictions move for the better part of the day (about 21 hours). They move to find just the right nutrition. They move to reach a stream or pond to drink, and then to a spot to rest. They move to play and to restore a herd hierarchy. They move a lot during the mating process. Observations of wild horses have calculated that they move at least 10 miles / day.

So in nature horses move at least 10 - 15 miles a day. They move over different types of terrain; soft ground, hard ground, bogs, rocks and deep footing around the watering holes.

Movement has life sustaining consequences for the circulatory and lymphatic systems.

The size of the horse's heart is small in comparison to that of predators. It weighs about 0.5% of the horse's weight, whereas the heart of a dog or cat weighs 1% of their body weight.

In order to move the blood all the way down the legs and back, the horse re-



lies heavily on the pumping of the hoof through deformation of the hoof capsule. This (hoof) deformation can function only when the horse moves.

The pumping of the muscles in the upper leg and the pumping of the hoof are indispensable as an aid to the heart muscle.



**All of the above are important aspects for the horses' well being and especially for his immune system, as it relies heavily on physiologically and psychologically correct living conditions.**

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