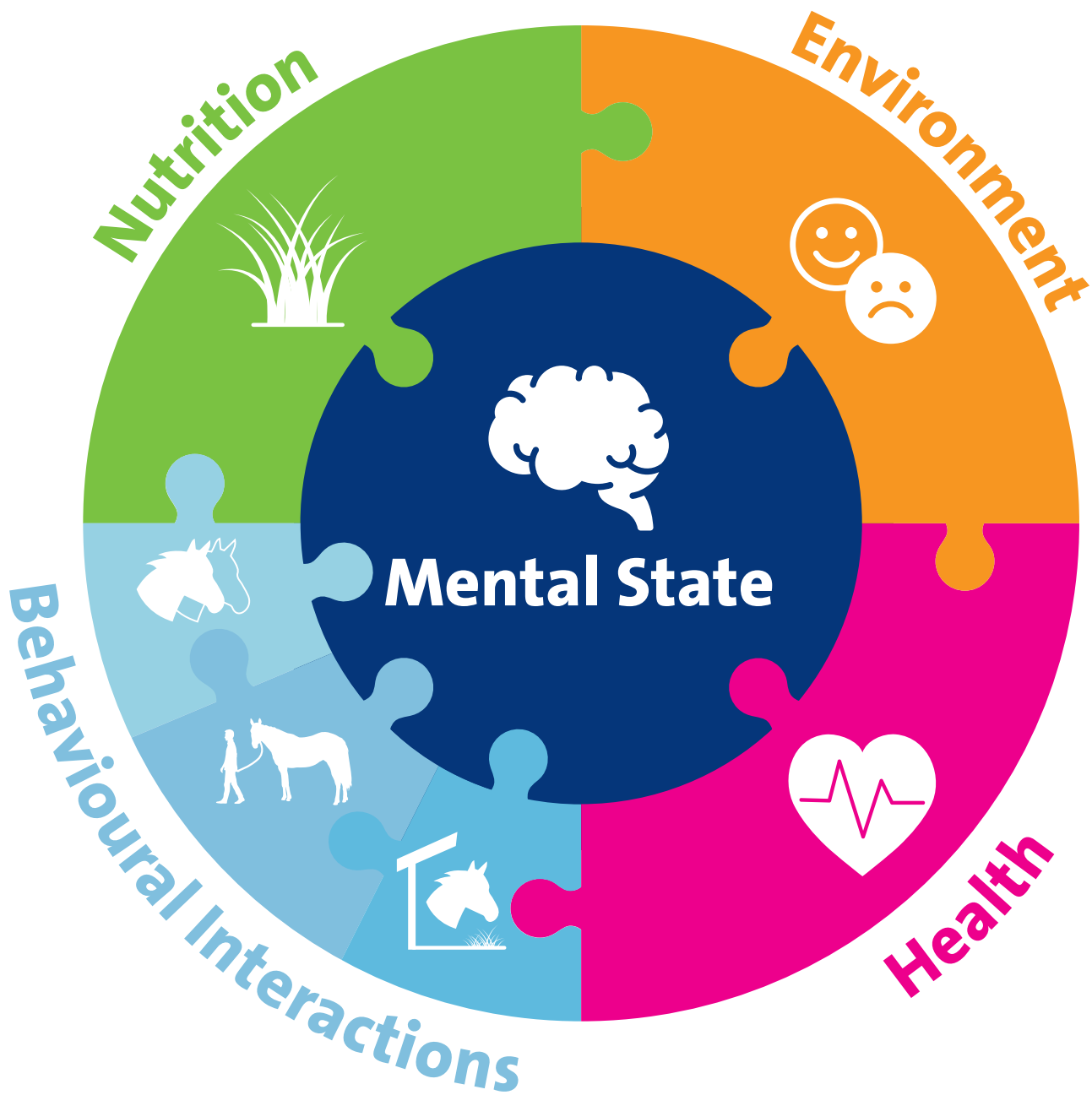




Using the 5 Domains to assess horse welfare





The following guidance is based on the 5 domains model for animal welfare assessment and studies that examined free-ranging horses*. The 5 domains model was generated by welfare scientists to help improve animals' quality of life. It has been developed in a way that makes it easy for anyone to use. One of the key features of this model is that it allows us to evaluate how an animal may feel, incorporates positive as well as negative emotions, and helps us to think about how human interaction can influence the welfare of horses – something that many welfare assessments fail to do. In this guidance, we have used the 5 domains model to assess the welfare of domestic horses.

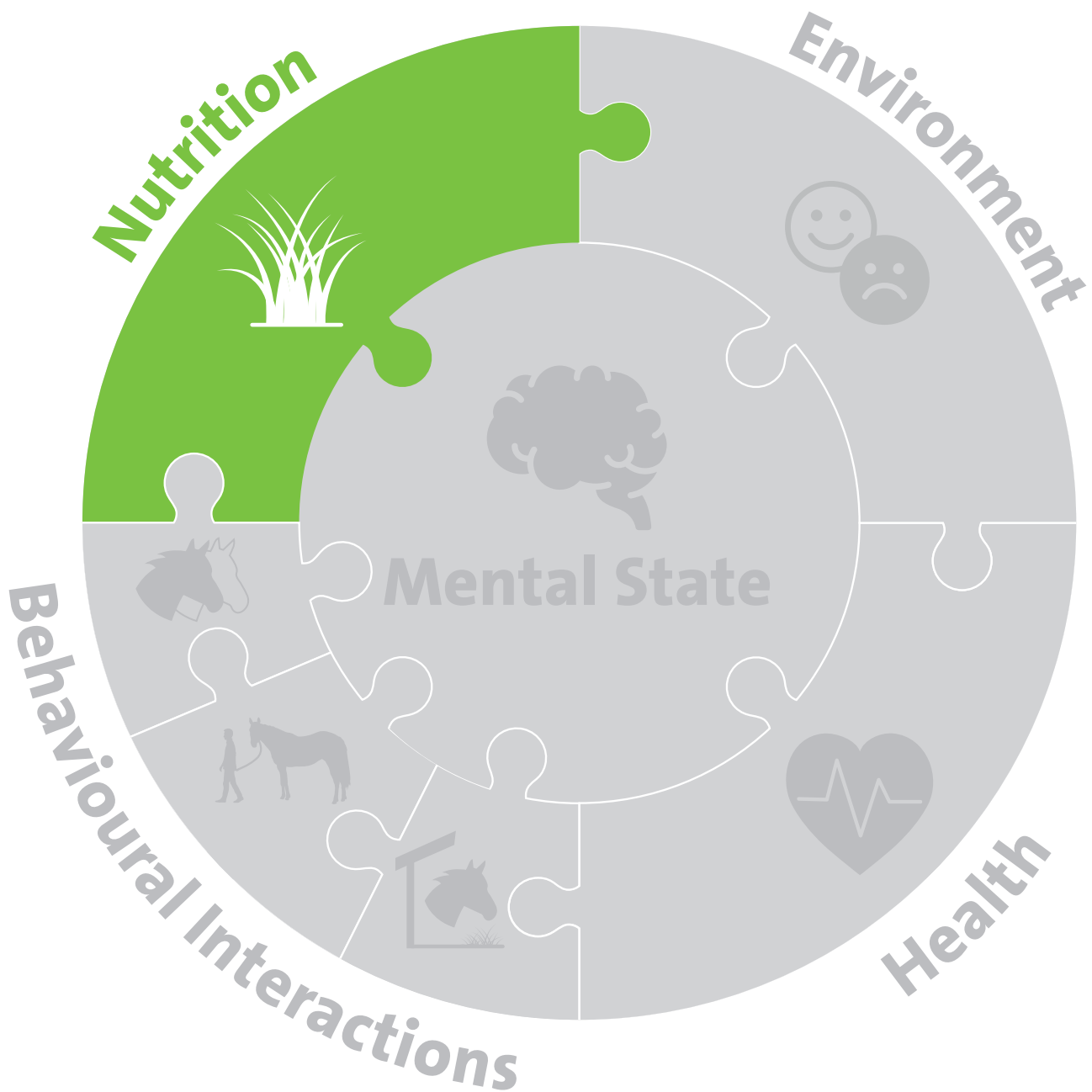
*In this context, free-ranging horses are those that are feral or semi-feral and are not intensively managed by humans. Knowing how free-ranging horses live can help us identify the types of conditions that help horses thrive, or those that place them at risk.





Domain 1 - Nutrition

Domain 1 examines horses' nutritional needs, including their water and food intake. If horses have their individual nutritional needs met, they are more likely to be in a positive mental and physical welfare state.





Domain 1 - Nutrition:

Water

A good state of hydration is essential. To stay hydrated, horses need at least 50 mL of water per kg of body weight per day. A 500 kg horse will therefore require at least 25 L (5.5 imperial gallons; 6.6 US gallons) of water every day.

However, the amount of water that each individual horse needs depends on a range of factors including workload, season/climate, moisture content of feed, health, and reproductive status, and some horses require 30–40L per day. For example, if a lactating mare is to remain hydrated and produce milk for her foal, her water intake requirements will increase substantially. Other factors that can influence water intake and could lead to dehydration include travelling horses, hot and/or humid conditions and when water has frozen and is very cold (this can be a contributing factor in impaction/compaction colic during winter). It is therefore important to ensure that your horse always has access to clean, fresh water.

Free-ranging horses may drink only once or twice a day, whereas stabled horses can drink 4+ times a day. It is helpful to get to know your horse's drinking habits so that you will know if they change, as this might be a sign of ill health.

Drinking is a social behaviour, which means that horses in a herd will often go to drink together. If you keep your horse in company (which is important), make sure you provide enough water sources so that all individuals can drink as much as they need without conflict. Limited access to resources can lead to resource guarding by individual horses, which can lead to conflict.



Assessing your management:



Does your horse have constant access to clean, fresh water?



Does the water source in the field allow for communal drinking?



Does the water source allow all horses access to water, minimising the risk of conflict/resource guarding?





Domain 1 - Nutrition:

Nutritional requirements

Horses are predominantly grazers, with studies showing a range of up to 35 grass species being eaten by free-ranging horses.

Domesticated horses often have less variety in their diet, with many pastures being made up of a single species such as ryegrass. Domesticated horses' diets are often supplemented with preserved forages such as hay or haylage, which can also be monocultures (made up of one grass species). Where possible, the addition of other grass species either in paddocks or in forage will provide horses with more choice and will increase foraging behaviours, which are important for horses' well-being. Ideally, horses should also be provided with the opportunity to browse horse-safe hedgerows or have branches from trees, such as willow or hazel, added to their environment.



In addition to forage, domesticated horses are often fed a concentrate feed. This should be based on the horse's body condition and energy requirements and an individualised diet should be provided for each horse. Horses that are not in work will have different energy requirements to those that are, and their workloads will influence how much to feed. Fibre (grass, hay or haylage) should make up the majority (sometimes 100%) of the horse's diet, with many horses only requiring an additional vitamin and mineral balancer to aid metabolic functions and avoid deficiency of key micronutrients that may be lacking in forage. Where horses require additional feed due to health conditions, workload or reproductive status (e.g., breeding stallions or mares in foal/lactating), these additional requirements should ideally be met through more or better-quality forage. You should seek the advice of a qualified equine nutritionist to ensure that your horse's energy requirements are met without excess sugar or starch as part of the diet, as this can influence health and cause behavioural issues. For more information on nutrition, please see our [Nutrition advice pages](#).

It is important that you can accurately fat score your horse – this is also known as body condition scoring. This allows you to ensure your horse is being kept at a healthy weight. Regular fat scoring will tell you if your horse is losing or gaining weight, allowing you to make changes to the diet before the change in bodyweight becomes excessive. For more information on managing your horse's weight, see our [Right Weight resources](#).

Assessing your management:



Does forage make up the majority (90–100%) of your horse's diet?



Does your horse have the opportunity to access a range of forage and browse?



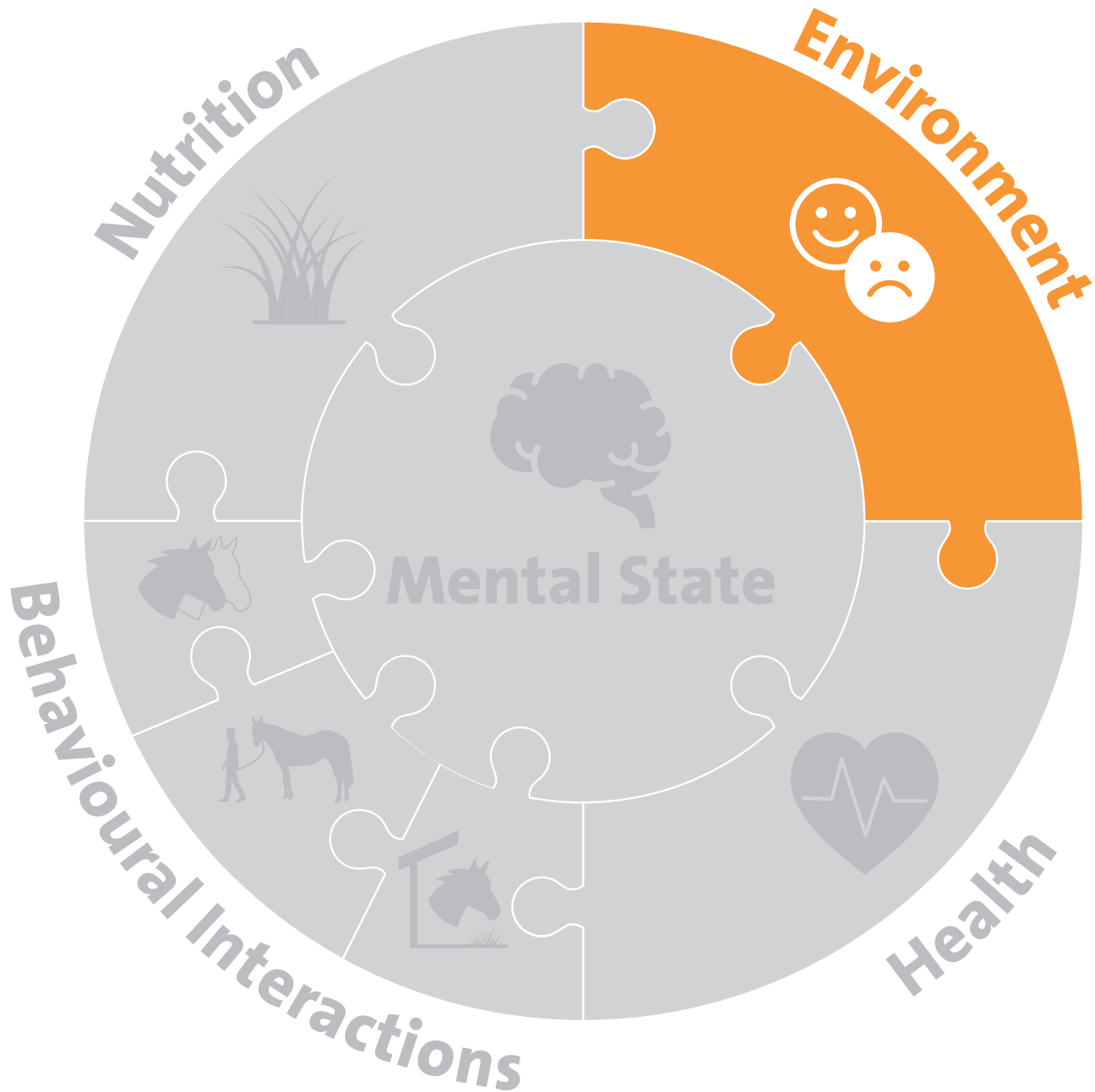
Is your horse a healthy weight?





Domain 2 - Environment

Domain 2 examines whether horses are comfortable in their environment – and whether the environment that we have provided them with allows them to improve the situation if they are uncomfortable. For example, if they are too hot can they find a way of becoming cooler, or if they are too cold can they warm themselves up?





Domain 2 – Environment:

Temperature

Horses' thermoneutral zone is usually between 5°C and 25°C. The thermoneutral zone is the range of ambient temperature where horses can usually remain comfortable without effort.

Outside of this temperature range, the physiological effort required to warm themselves up or cool themselves down increases. The process of digestion produces heat as a by-product, so suitable amounts of forage should be provided at all times, especially in winter months. The heat generated through digestion is one of the reasons that horses can cope in lower temperatures than humans can – it's like having their own central heating system. This also means that horses can get too hot in temperatures over 25°C. Horses should have access to suitable shelter, either natural or manmade, ideally at all times, but especially in extremes of weather such as temperatures below freezing, heavy rain or temperatures over 25°C. Many horses will shelter from strong winds and heavy rain and, on hot days, will seek shade and relief from insects.

Free-ranging horses have been shown to use different habitats at different times of year. This allows them to get the best protection from climatic extremes. Domesticated horses do not have this freedom to choose, so their individual needs must be considered by their owners and keepers. These include factors such as age, weight, health conditions and how thick their coat is (also taking into consideration whether they have been clipped). This may mean that horses need rugging and extra forage provision in cold and/or wet conditions, and additional water sources and shade in hot weather.

While rugging can keep a horse warm, it also impacts horses' ability to regulate their own temperature. Rugged horses need to be monitored regularly to make sure they are comfortable and not too warm, even on cold and wet days. Over-rugging can lead to discomfort as horses can get too hot and sweat under their rugs and are not able to cool themselves down. It is important to check rugs regularly to make sure they are not rubbing or causing discomfort due to poor fit.



Assessing your management:



Does your horse have the choice of self-selecting a suitable shelter?



If your horse needs to be rugged, is the weight, type and fit of rug appropriate to their needs?



Would a lighter rug – perhaps even one with no fill – be more suitable for the weather conditions and your horse's weight?





Domain 2 – Environment:

Sleep and rest

Rest and sleep are important factors in maintaining equine welfare, and horses should be provided with suitable locations and substrates to allow them to sleep lying down comfortably.

This facilitates rapid eye movement (REM) sleep, which is required daily and can only be done when the horse is lying down. Horses need to feel safe to sleep. This is why, in free-ranging populations, they take turns to sleep, with other herd members keeping watch for danger. Having communal areas when turned out or when brought inside can facilitate this. Horses should be able to rest and/or sleep after exercise or after a stressful event.

Just like us, good quality rest and sleep is essential as it allows horses' brains and bodies time to recuperate. It is important to remember that horses do not sleep through the night like we do, but sleep in several short bouts throughout the day and night. Ideally, horses should be allowed to choose how and when they rest and sleep.

Assessing your management:



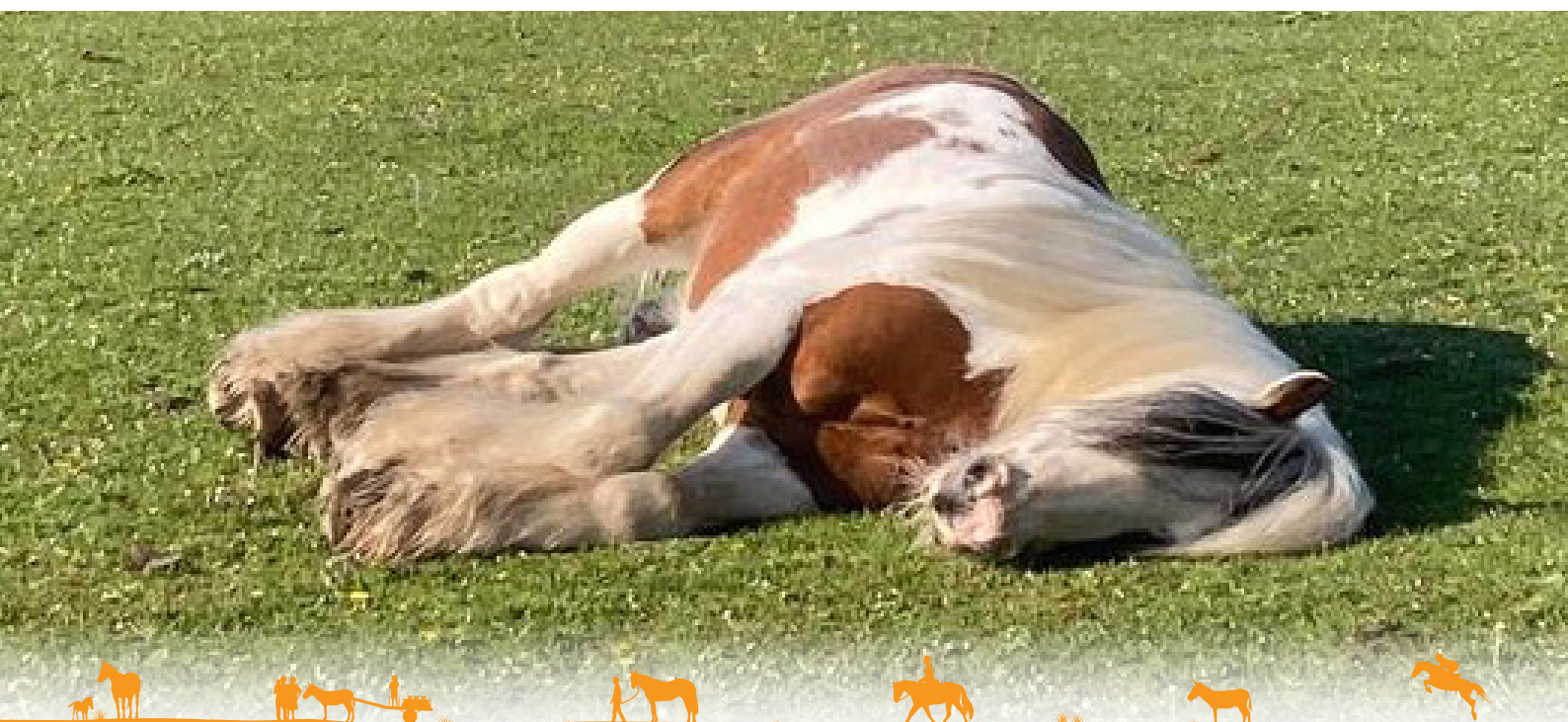
Does your horse's environment promote a feeling of safety to allow them to sleep?



Does your horse lie down to sleep every day?



Does your horse have access to a suitable (soft and dry) area to rest and sleep?





Domain 2 – Environment:

Additional environmental factors

When considering ways to minimise negative experiences, you should also consider the implications of the horse's wider environment.

This can include exposure to noise and vibrations e.g. road traffic (which also exposes them to pollution) and exposure to artificial lighting (which can have hormonal implications for mares). Horses experience their environment very differently to humans, and as much as they may habituate or become desensitised to stressors in their environment, you should be thinking about how to minimise the risk of exposure to these stressors where possible.

Assessing your management:



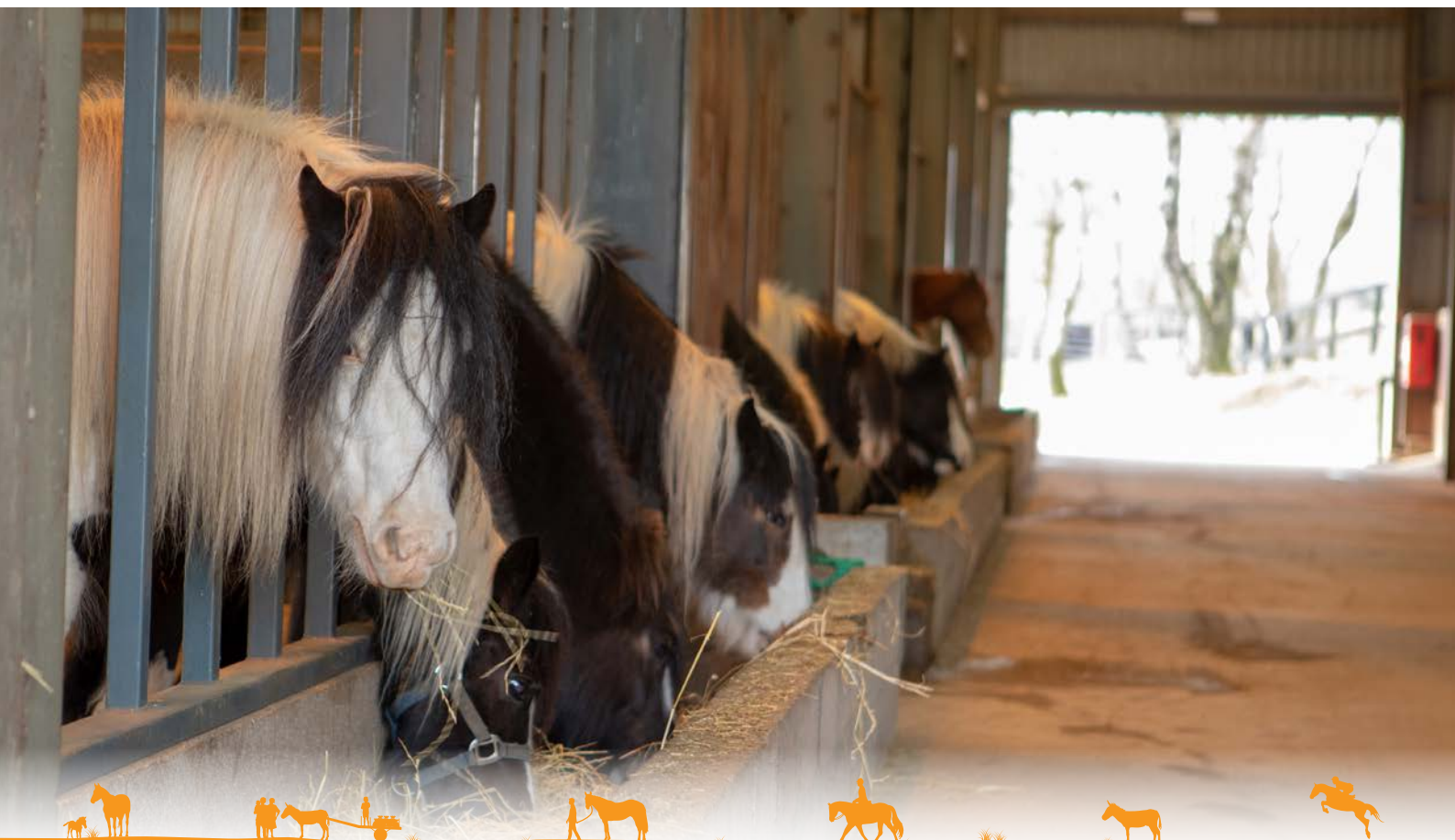
Is your horse exposed to light and/or noise sources that you can consider turning off?



Do they have a quiet area they can access freely?



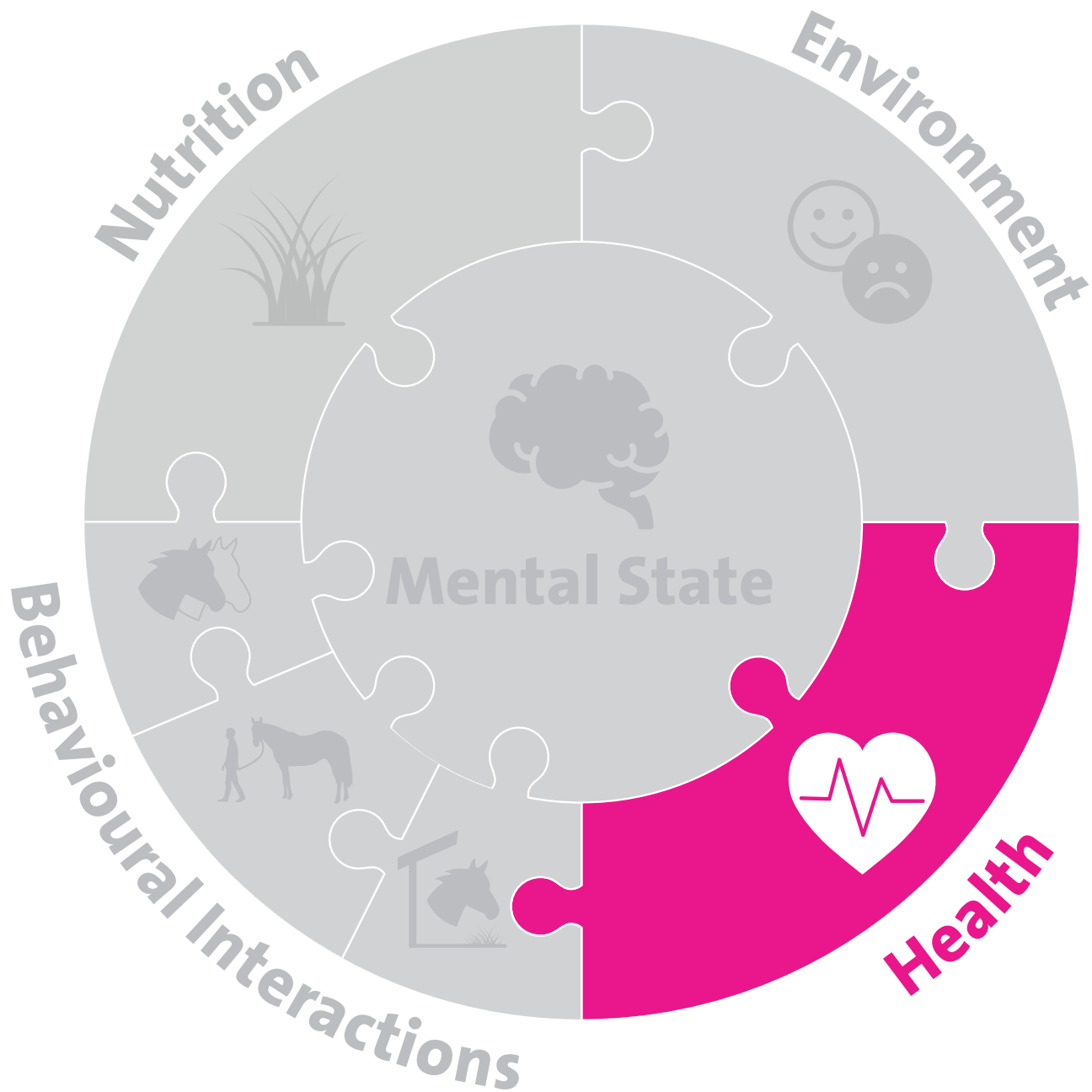
How much time do they spend under artificial lighting?





Domain 3 - Health

Domain 3 focuses on health, including prevention of disease and being able to recognise the subtle signs of pain or discomfort. By recognising signs of ill-health, stress, and pain, you can resolve negative health experiences for your horse as quickly as possible.





Domain 3 - Health:

Routine health

Keeping horses healthy is often the primary concern for most horse owners, keepers and riders. A wide array of diseases, ailments and injuries can affect horses, and more detail about specific issues can be found in our [advice library](#).

It is important that you can recognise signs and symptoms of good and ill health, as well as pain and discomfort behaviours. You should record your horse's temperature regularly, and ideally their other vital signs, their pulse and respiration rates. By recording this information, you can catch the signs of infection early. You can find guidance on how to do this on our [Education YouTube channel](#).

Free-ranging horses primarily have health issues related to their hooves and parasitic burdens. In domesticated horses, these should be managed as part of your routine health care plan. It is advisable to put together an annual health plan for your horse. This should include vaccinations, hoof care, tack checks, de-worming, dental care, regular temperature-taking, monitoring weight and condition, monitoring behaviour, and provision of a suitable environment e.g., biosecurity measures, deep cleaning stables and/or having a pasture management plan.

Exercise is also an important consideration to keep horses physically healthy. Horses that do not receive sufficient exercise can have weaker muscles and poor bone density that predisposes them to injury and fatigue. Remember that horses will get some exercise if turned out in pastures large enough to be able to have the occasional gallop. The appropriate amount and intensity of groundwork, ridden exercise or driven work will vary based on the horses' workload, but it is important to remember that daily movement is essential.



Assessing your management:



Is your horse routinely vaccinated against influenza and tetanus?



Do you follow an annual health plan?



Do you have biosecurity protocols in place and are you following them?





Domain 3 - Health:

Recognising pain and discomfort

Recognising pain- and discomfort-related behaviours is an essential part of horse management, and early recognition and intervention promotes positive welfare.

Horses can experience pain and discomfort due to injury and ill health, as well as due to things such as ill-fitting equipment and rough handling. Pain-related behaviours can range from subtly moving away when being groomed or not allowing you to catch them in the field to high reactivity behaviours e.g. bucking/rearing. These behaviours can also be due to stress or fear, so it is important to rule out pain and then examine your horse's wider management to identify any stressors.

For more information on recognising pain- and stress-related behaviours, please see our [horse behaviour checklist](#).

Assessing your management:



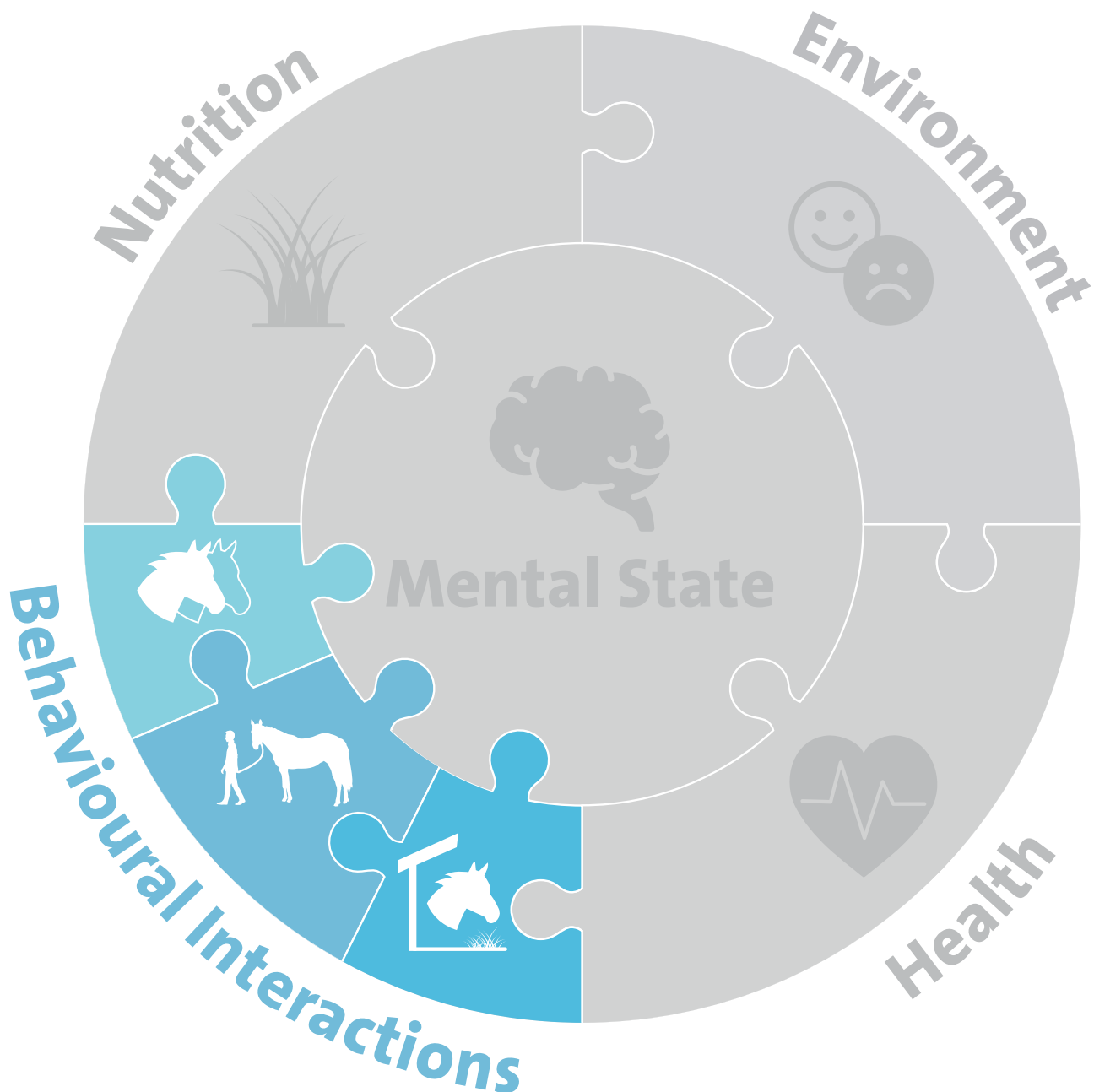
Are you able to recognise the subtle signs of pain and/or stress?





Domain 4 - Behavioural Interactions

Domain 4 examines the behavioural interactions horses have with their environment, other animals and with humans. Horses should be provided with an environment that allows them to access the 3Fs of friends, forage and freedom. Our horse-human interactions should be centred around trust and developing a positive relationship.





Domain 4 - Behavioural Interactions:

Interactions with their environment and other animals

Time budgets

Free-ranging horses spend the majority of their time grazing and moving. Other activities include playing, socialising, drinking, resting and sleeping.

These activities are spread out over the course of the day and night, and studies have shown that horses distribute their time spent eating, moving, and resting evenly over a 24-hour period. This means that they don't sleep through the night like we do. Instead, they sleep for about 15 minutes at a time, several times a day. In between sleeping bouts, they eat, drink, rest, play, and socialise.

When managing domesticated horses, it is important that you aim to mimic their natural lifestyle as much as possible, including maximising time spent grazing and opportunities for free movement and socialisation with other horses. As horses spend time doing different activities during the day and night, providing them with an environment where they can choose what they want to do is a great way to improve their well-being. This is particularly important when keeping your horse in at night, as horses only spend a short amount of time sleeping. Providing your horse with enough forage to last the night is important to maintain both a healthy gut and a happy mind. It is worth considering overnight feeding methods, especially for horses prone to weight gain. To ensure their forage lasts the night but does not add extra calories to their diet, consider soaking hay to remove water soluble sugars, feeding straw or mixing straw in with soaked hay and using small-holed hay nets.



Assessing your management:



Does your management promote movement, foraging and socialising?



Does your horse have the opportunity for play and free exercise?





Domain 4 - Behavioural Interactions:

Housing and Turn Out

Free ranging horses have been shown to travel an average of 10–20 km a day into varying habitats to suit their needs. In comparison, domesticated horses turned out in a 9-acre field may only travel 7 km. Many horses are turned out in paddocks smaller than 9 acres, therefore their movement is likely to be less than 7 km a day.

It is important that horses are offered turnout and the opportunity for free exercise. Free exercise can include play with other horses whilst turned out, or if they decide to have a trot/canter around the field on their own. Horses with restricted movement can develop behavioural issues such as weaving and box walking when stabled and excitability when turned out or ridden. You can incorporate walking into your horse's daily routine through increased time turned out or implementing a track system. If this is not an option, you can add walking in hand, walking over poles, and occasional use of a horse walker to their daily routine.

Your horse's environment, whether stabled or turned out, should not only meet the basic needs of the horse but should also offer some form of enrichment. This can be provided through offering a range of forages, different beddings, and different substrates (e.g., sand for rolling area when turned out). Access to a range of forages and enrichment areas has been shown to have a positive effect on equine behaviour and mental well-being. In addition to the traditional concept of stabling and turn out, there are a range of modern housing options available that may be better suited to your horse's needs. These include group housing in barns with access to group turnout, and herd living on grass or surfaced track systems.

It is important that you can identify plant species that may be toxic or poisonous to horses both in the pasture and when checking forage. For more information on poisonous plants, please see our [Ragwort: How to deal with it in horse paddocks advice page](#).

Assessing your management:



Does your horse have regular access to turnout with at least one other horse?



If your horse is stabled, can they see and touch other horses? This can be across safe low walls or through large windows.



Is your horse able to exercise freely and have the option to move for most of the day?





Domain 4 - Behavioural Interactions:

Social interactions

Horses are social animals and they require interactions with other horses as part of their daily lives. Free-ranging horses live in either family groups or bachelor groups. Family groups are stable with, on average, 8–12 group members including one or more stallions, 4–8 mares and their offspring. Bachelor groups have a looser structure and consist mainly of stallions of different ages and young colts who have left their family groups.

Stallions can be turned out with mares if covering naturally for breeding purposes (see our [‘Need to Breed’ page](#) for details on responsible breeding). In managed, domesticated herds, stallions are often castrated (gelded), after which they can be turned out with mares in mixed groups. Stallions need social interactions just as much as mares and geldings do. When carefully managed, stallions benefit from being turned out with other stallions or geldings (if they are not turned out with mares) or from being kept in social housing that allows them to interact and mutually groom their neighbour. This physical contact helps to lower horses’ stress levels and has been found to make them less fearful. However, it is common to see horses – mares and geldings, as well as stallions – turned out alone and this can compromise their mental well-being. It is important that horses can not only see but also touch other horses, at a minimum across a safe barrier. Among other things, this gives them the opportunity to groom each other – restricting this behaviour compromises their ability to maintain friendships and to regulate their stress levels, and consequently has a negative effect on their welfare. Where possible, horses should be turned out at least in pairs, in sex-specific groups or, ideally, mixed groups.

Horses communicate through body language, facial expressions, physical touch, vocalisation and smell. It is important that horses can interact with other horses freely through mutual grooming, playing, and sharing resources such as forage. Horses have rich and complex social interactions that are based on friendships, but they also develop well-established rank relationships that help prevent conflicts over limited resources. It is natural and normal for horses in a group to establish these relationships with each other using agonistic behaviours including putting their ears back or kicking out. This is all part of being a horse. For further guidance on introducing horses in a way that minimises the risk of injury, please see our [Introducing a new horse to a herd advice page](#).

Continued overleaf





Domain 4 - Behavioural Interactions:

Horses who are weaned early and not well socialised at a young age will often have poor social skills and may not be as good at picking up on subtle communicative signs from other horses as those that are weaned later, leading to increased risk of conflict. This can include not moving away from other horses when they ask for space, not disengaging from play, and resource guarding of food, other horses or people, all of which can lead to incidences of aggression between horses. Evidence has shown that the longer foals are able to stay with their mother and live in a stable mixed-age group, the more socially capable they are. This time spent with their mothers and other broodmares and youngstock allows them the opportunity to learn their important social skills.

Restricting social contact has a negative effect on horses' mental well-being. If your horse can't be turned out with others, then it is important that non-physical contact is maximised. This includes making sure your horse can always see other horses, whether stabled or turned out, and that they go for walks in hand, hack or school with other horses. When stabled, allowing horses physical contact with other horses through large windows or over lowered interior stable walls is advisable.

Assessing your management:



Is your horse able to engage in friendly social interactions with other horses when turned out and if they have to be stabled?



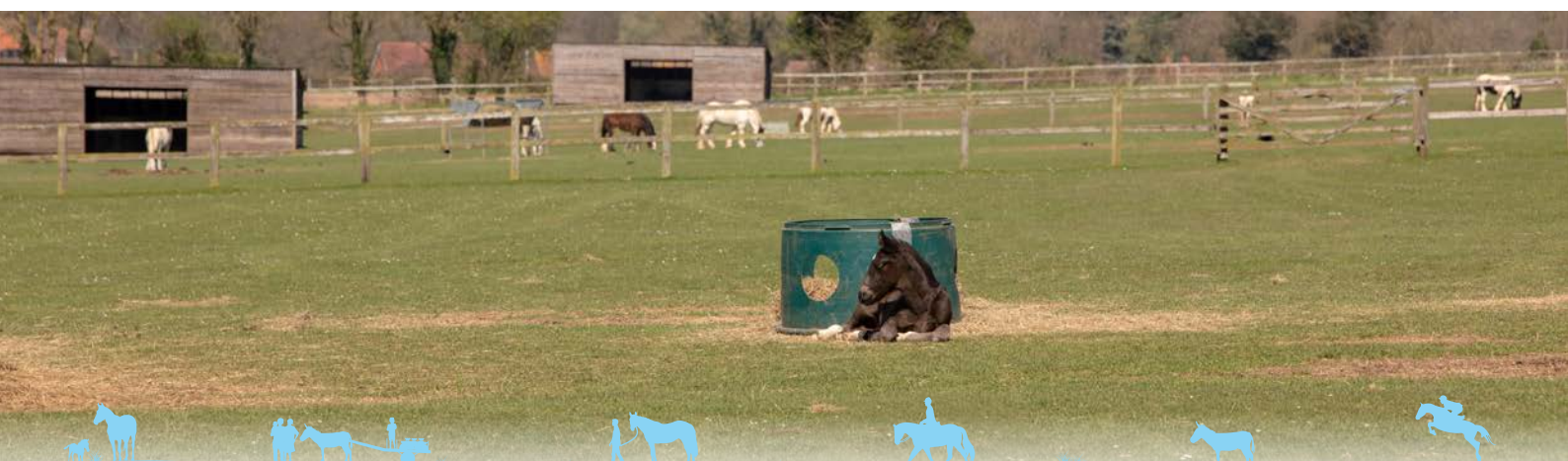
If so, does this include the ability to touch other horses?



Do you keep a behaviour diary?



Does your horse display signs of poor socialisation?





Domain 4 - Behavioural Interactions:

Interactions with humans

Horse-human relationships can be mutually beneficial. But how we interact with horses, including our attitudes towards them, our knowledge, our understanding of their behaviour and our level of skill will all impact our horses' welfare, in a positive or negative way.

A good understanding of [learning theory](#) – the processes through which animals learn – is important when training them. Good training gives the horse control and predictability in training situations, which lowers stress levels and makes the horse more confident in new situations as well, which is linked to positive emotions. Outside of the training context we can also have positive interactions with horses, for example when spending time grooming them, especially by scratching them on areas they particularly enjoy.

For more information on behaviour management and training, please see our [behaviour advice pages](#).

Assessing your management:



Do you use the principles of learning theory when you work with your horse, including groundwork and ridden or driven work?



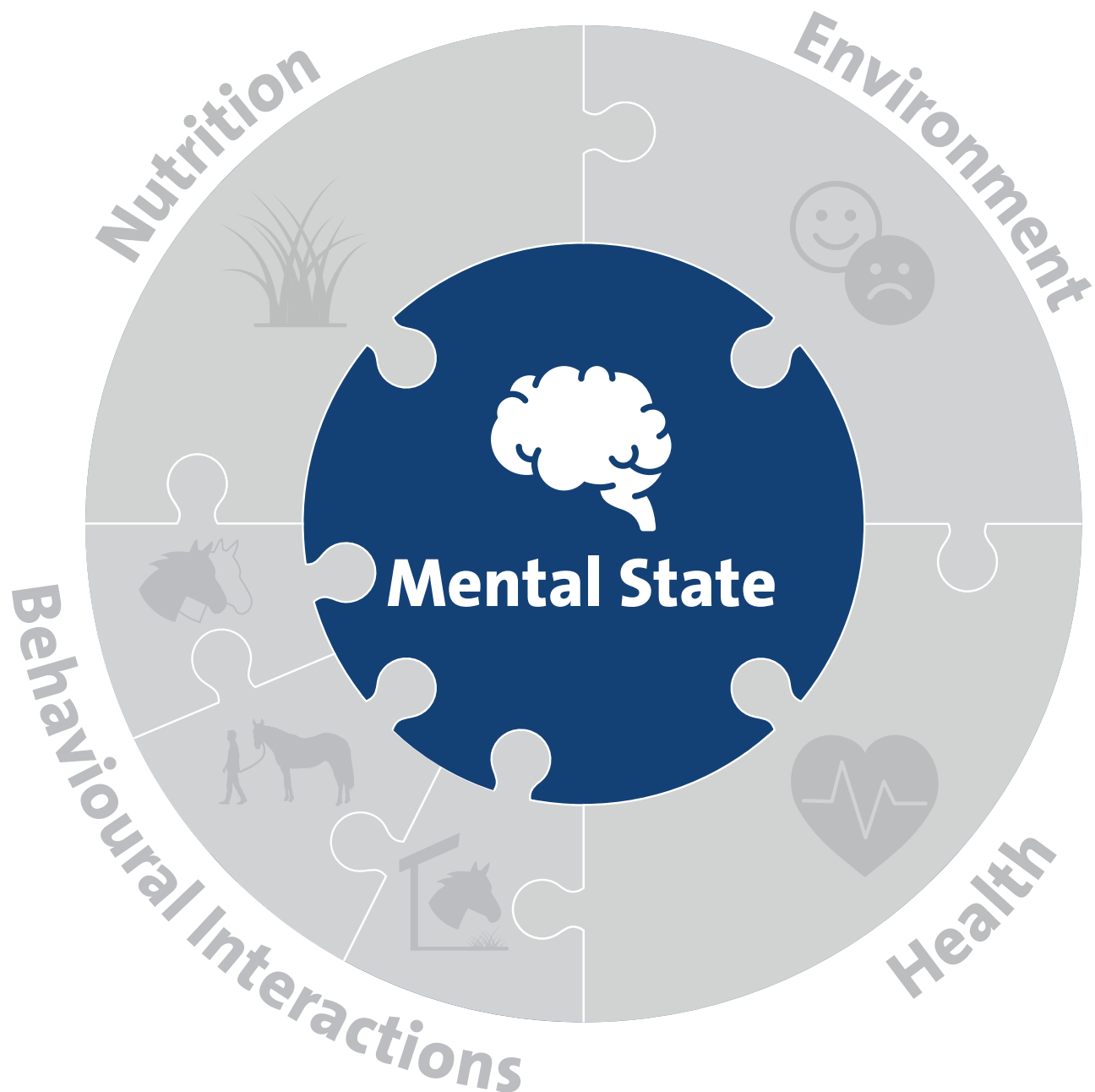
Do you spend quality time with your horse outside of active training to do the things your horse enjoys doing?





Domain 5 - Mental State

Domain 5 brings all the other domains together. We need to recognise that horses are sentient beings that can experience positive and negative emotions that are directly linked to how we manage them.





Domain 5 - Mental State:

Maximising the positive and minimising the negative

Horses experience different emotions, and these emotions can be either pleasant or unpleasant, just as they are for us.

A horse's mental state is influenced by the emotions they experience, and all the factors in the previous four domains will affect this. A horse's welfare in the moment, or their quality of life (a concept that is generally defined as the balance of their welfare over time), will depend on the balance of positive and negative emotions they experience. It is not possible for horses (or us) to completely avoid all negative or unpleasant experiences – what matters is resolving them successfully when they arise. For example, what matters to the horse is being able to drink when they are thirsty, eat when they are hungry, find shade when they are hot, or calm down with their best friend after getting a fright. And it is our job to provide them with an environment that allows them to resolve these stressors for themselves.



If negative experiences are not resolved in time, they will become more intense or chronic (long-lasting), and they may prevent the horse from having positive experiences. In contrast, horses who are healthy and feel safe, who have their fundamental biological needs met because they are in an enriched environment centred around foraging, movement and physical contact with other horses, are more likely to experience pleasant emotions, and thus be in a state of positive mental well-being. It is our responsibility as horse owners and keepers to safeguard our horse's mental well-being through appropriate daily management. For more information, please see our [Horse Health Essentials](#), [Horse Nutrition Essentials](#) and [Horse Management Essentials](#) pages.

Assessing your management:



Does your management maximise the opportunity for positive experiences whilst minimising the risk of negative experiences?



If your horse is in a negative situation, such as in pain or distress, are you doing everything you can to alleviate their situation?



Do you provide your horse with an environment where they are able to resolve many of their negative experiences (e.g., thirst, hunger, solitude, lack of exercise) on their own?

