



## **Coaching Manual Update**

**For coaching riders at  
D Star and C Certificates,  
including lesson plans**

Equitation Science component

Dr Portland Jones

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# **D\* and C Certificate Coaching Manual Update**

## **Introduction**

### **Safety and Welfare**

Pony Club coaches are very special people! We're responsible for sharing our knowledge and the Pony Club syllabus with new generations of horse lovers. We try to not only nurture a love for the horse but also to educate our students so that they can ride in a balanced and effective way. We help our students to develop correct habits and horsemanship skills that are consistent with the community's expectations of animal welfare and that will endure, regardless of where their riding journey takes them.

However, while it's very important that we make sure pony club is educational, fun and rewarding our most important duty as coaches is to keep our students safe. Unfortunately horse riding is a dangerous activity, causing 25% of all lethal injuries in children's sport. (It is statistically more dangerous than motorbike riding with 7.8 fatalities per 100,000 participants per year and the group at the most risk of injury and death are young women.) While it would be impossible to make horse riding entirely risk free, as coaches, we need to maintain our focus on improving safety wherever possible.

As well as focusing on safety we must also ensure that our students have the understanding and knowledge to make good decisions regarding horse welfare. The world is changing rapidly, and we are learning more about the horse every year. Our teaching must reflect these changes – we must be ethical custodians of the horse so that future generations of students can enjoy the horse as we have done.

### **New syllabus**

The new Pony Club Australia curriculum has been written to both honour the contributions and knowledge of the past while embracing the improvements in training effectiveness, safety and welfare that science can bring. Implementing an Equitation Science based training program has been

proven to be the most effective way of maximising rider safety and horse welfare. Equitation Science takes the guesswork out of training and significantly enriches our relationship with the horse as it reveals his extraordinary abilities and the differences between our species.

Change can be daunting and while you may have to learn some new concepts, specifically relating to the way that horses learn, you will probably find that the new curriculum is not unlike its predecessor. It's quite likely that most of your lesson plans and activities will still be able to be used with a few simple changes. The whip and spur licence will give you more opportunities to safeguard the welfare of the horses that you teach and the dual stream K and B certificates will offer non-jumping riders a clear alternative pathway. The simple ground work component will help you to keep your students safe when handling their horses and give them the tools to manage their horse in a more effective way.

It is our sincere hope that you will enjoy learning the new material in the PCA curriculum and that your willingness to learn will be communicated to your students – instilling in them a long lasting habit of education that can, in the long run, only prove to be of benefit to the horse.

*- Dr Andrew McLean and Dr Portland Jones*

# Equitation Science

## ***How Horses Move***

*Horses have been domesticated for over 5000 years and for all that time humans have marvelled at the way they move. In fact, over the centuries, one of the most enduring arguments amongst horse people was whether the moving horse ever had all four of his hooves in the air at one time. Famous Greek philosophers, academics, artists and successful trainers all tried to answer the question and failed because the human eye is simply too slow to see the horse's movement in detail.*

*It wasn't until 1878 when Eadweard Muybridge built a rig of 12 high speed cameras that the moment of suspension could be clearly seen in the trot, canter and gallop. It's interesting to consider that, because of science, young pony club students today can easily answer a question that went unanswered for millennia.*

You've probably been asking yourself what is **Equitation Science** and how is it going to help me to teach my pony club students?

Equitation Science is a relatively new field of science that aims to understand the horse and how he learns. It doesn't belong to anyone – it is a field of endeavour populated by scientists from all around the world, working together to make training safer, more effective and with better welfare outcomes for the horse. It is currently one of the fastest growing sciences and is being taught to vet and animal science students in dozens of universities across Australia, Europe, Canada, the UK and the US.

Equitation Science embraces all forms of training that are evidence based and ethical. It has a strong focus on ethology (the study of the horse's natural behaviours) and learning theory (the study of how animals and people learn). It also incorporates biomechanics (which is the science of how the horse moves) and recognises the limits of the horse's cognitive (thinking) and physical abilities. It provides answers to the questions that have troubled horse people for thousands of years and in the process makes horse training safer and more effective. Equitation Science is the best way to improve the welfare of horses because it doesn't guess – as Professor Paul McGreevy says, "Equitation Science measures only the measurable."

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*A note on the use of 'he'*

*Throughout the manuals the horse is referred to as 'he'. This is, in no way, meant to suggest that geldings are superior to mares, it is just simpler than 'he/she'. It is a convention of the language in the same way that naming the left hind first when listing the footfalls does not infer that the left hind has special functional significance.*

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## **How the horse works**

Students studying for their D\* and C certificates should be developing competence in both handling and ridden tasks. They should be capable of riding off the lead and managing most tasks on their own – with adequate supervision. The D\* certificate is now a prerequisite for riders wishing to do their C certificate.

The first section of the D\* manual revises and adds to the riders' knowledge of the flight response. This is the instinct in the horse that prompts him to run away from danger. Many people call this instinct the *flight or fight response*, but we will focus on the flight aspect of the response because that is what is most prevalent in the horse.

The flight response is responsible for many of the accidents that occur with horses. It is the underlying cause of bucking, bolting, shying, kicking, rushing and tension. One of the most important things to remember about the flight response is that it is linked to the action of the horse's legs. If you think about the flight response behaviours, the one thing that they all have in common is that the horse's legs move quickly. Therefore, one of the best ways to limit the action of the flight response is to gain control over the horse's legs.

This doesn't mean that the horse should have his legs tied down or hobbled, it means that the horse's training should enable the handler/rider to control where the horse goes and at what speed, with *light aids*. It also means that the horse should demonstrate *self-carriage* (that is, neither speeding up or slowing down without being asked to) in each gait.

If the horse is constantly rushing or the rider requires heavy aids to control him, then the horse is almost definitely demonstrating the flight response. Reducing the flight response makes the horse safer and improves his welfare. The flight response will be examined in greater detail in the higher certificates because understanding it is such an integral part of any good training system.

As well as general discussions about the flight response you might find it useful to look at photos/videos of horses in various situations and identify the flight response. Look for a high head carriage, hollow back and quickly moving legs. Riders at D\* and C level should be able to identify the flight response and have some strategies for controlling it.

At C certificate level the riders start to learn a little more about evolution and how this impacts the horse today. The modern horse (*equus caballus*) existed over 55 million years ago as a small creature who lived in the forest. *Eohippus* (or, as it is more correctly known, *Hyracotherium*) was about the size of a labrador dog and had three toes on the back feet and four on the front. Early horses spent their lives in the forest living on fruit and leaves and it wasn't until the evolution of grass, about 20 million years ago, that the horse started to get larger and developed many of the characteristics that he still has today. Interestingly, over many millions of years the horse's side toes have disappeared and the last vestiges of them remain as the splint bones on either side of the cannon bone.

The horse evolved to spend most of his days grazing and interacting with his herd mates. In many ways his evolution is at odds with the things that we do with him today. While the horse will certainly cope with management that doesn't fit with his evolved patterns of behaviour – or what scientists call his ethogram, there is no doubt that the closer we can fulfil the horse's basic needs, the better his welfare will be.

In the higher certificates the students will learn more detail about managing horses in the best possible way but for D\* and C it is sufficient that they understand how the horse's evolution shaped his behaviour. The horse evolved to spend most of his day grazing low protein grasses. This need for roughage is not just a physical requirement it is a mental requirement too. Horses need to eat for

long periods each day in order to be content. Replacing low quality roughage with high quality manufactured feeds may suit humans but it is certainly not what horses have evolved to do.

Horses also evolved to spend their days interacting with other horses. Stabling for long periods of time is very likely to be detrimental to the horse's wellbeing, as is isolation from other horses. One of the most destructive things for social mammals of all species is to isolate them from others of their kind. It is for this reason that solitary confinement of humans is forbidden by the Geneva Convention. Ideally horses should be able to have physical contact with other horses. In the past it was believed that, in the absence of other equines, a companion such as a goat or sheep would do. This is less than ideal and should not be a long term management solution.

The modern horse still retains the characteristics of his ancient ancestors as this excerpt from the C Certificate manual shows:

- He has extremely sensitive hearing and large eyes because they make him harder to sneak up on.
- He has very fast reflexes and, over a short distance, is one of the speediest animals on the planet because this allows him to escape from predators.
- He is extremely good at forming and maintaining bonds with other horses because for prey animals like the horse, there is safety in numbers.
- He has a fantastic memory, particularly for terrain and environment because his knowledge of his home range helps him evade predators.
- His digestive system allows him to travel many kilometres per day in search of food because he doesn't have to lie down after eating or chew his cud like a cow.

C certificate students could make posters detailing the ways in which the horse has evolved to fit his environmental niche. Discussions about the physical differences between other animal species and how these reflect the differences in how each species evolved would also be a useful way of developing an understanding of this topic.



However, the most important thing for C Certificate students to understand is the flight response as this brief excerpt from the C manual demonstrates:

“Under saddle the flight response shows up as quickening and tension. Horses that are expressing the flight response may shy, swerve, launch, buck and even bolt. People used to think that jumping horses that rushed their fences did so because they loved jumping. But we now understand that this is just the flight response. Horses that ‘take off’ on the cross country course are expressing the flight response just as much as a horse that is running away from a hungry lion. Well trained horses should not speed up or slow down on the approach to the fence, they should maintain the same tempo before and after.

A little bit of flight response can affect the entire horse and not in a positive way. It can lead to all kinds of unwanted behaviours like fence walking, crib biting and general anxiety. It can prevent the horse from putting on weight and may even lead to conditions like stomach ulcers and colic.

The most important thing to remember about the flight response is that it almost always involves the horse’s legs moving quickly. Therefore, gaining control of your horse’s legs is the first step in limiting the flight response and reducing stress.”

Although riders at D\* and C level do not need to know the ten principles of training you might find it interesting to review them (below) and note that No 2 deals with the flight response. These ten principles form the foundation of all effective, ethical training systems and it is always worthwhile considering them when designing lesson plans or activities. They have been identified by Equitation Scientists as best practice principles.

## **Ten Principles of Training**

1. Prioritise safety when around horses
2. Understand what the flight response looks like and how to manage it
3. Understand that the horse's brain is different to ours
4. Prioritise calmness and be consistent at all times
5. Find ways to get the horse used to (habituate to) the things that scare him
6. Use pressure-release and reward training effectively. Avoid punishment
7. Use voice, seat and weight aids correctly and understand their limitations
8. Train behaviours gradually
9. Only give one aid at a time. Each aid should produce one response
10. Always focus on self-carriage

## **The Rider's Tool Kit**

This is the section of the manual that deals with the theory of learning and the various ways the horse learns.

In order to be considered competent at C Certificate level the students must fully understand the following:

- The flight response is the instinct that tells the horse to run away from danger. It makes the horse's legs move quickly.
- Pressure-release training is when you take away a mild pressure to tell the horse he has done the right thing. Our aids work because of pressure-release.
- Reward training is when you give the horse something that he likes to reward him for doing something that you want him to do again.
- Positive punishment is adding something the horse doesn't like, to tell him he has done the wrong thing. Before you use punishment, you should talk it over with your coach or a professional trainer.
- Habituation is just a different way of saying 'getting used to'.
- Classical conditioning is when a stimulus (such as a sound or smell) becomes associated with a reflex or learned response.

## Pressure-release

The first form of learning discussed is pressure-release. Pressure-release was best described by Tom Roberts who pointed out that if you sit on a pin you don't stand up because it hurts, you stand up to stop it hurting. The horse stops when rein pressure is applied because when he stops the rein pressure goes away. The horse goes forward when the rider applies leg pressure because when he goes forward the leg pressure goes away. This is a fundamental rule of training – all good training systems must prioritise the release of the aid.

Every interaction with the horse uses pressure-release and it is how the foundation responses (up to and including C certificate level these are stop, go forward and turn) are both installed and maintained so it is an extremely important form of learning. Basically, pressure-release describes why the aids work.

### *The Foundation Responses*

*Up until and including C certificate level the foundation responses are stop, go forward and turn. (At C\* they also include yield of the hindquarters). These four responses, trained and maintained using pressure-release, form the foundation of the horse's basic training, that's why they are known as the foundation responses. Problems in the foundation responses are the underlying reasons for most behaviour problems, so it is a good idea to check them at the start of every ridden lesson.*

In horse training the aid motivates the horse to try the behaviour while it is the release of the aid that trains the behaviour. Therefore, it is important that the pressure of the aid is not released until the horse performs the behaviour. It is useful to focus on encouraging riders to give clear aids and release them at the right time. When riders nag the horse with their leg or keep a heavy, constant contact with the reins the horse receives no release of the pressure and his training deteriorates. Similarly if the rider uses pressure randomly (one kick or a smack with the crop) this is not pressure-release and it will serve only to deteriorate the horse's training.

It can be useful for young riders to think of their aids as questions and to focus on making sure the answers are always the same. So, for instance, when they apply pressure to the reins (asking the horse to slow) they must maintain the pressure until the horse slows *every time* and then release the pressure. It is as if they are asking the horse, “Can you slow?” And when the horse answers the question correctly the rider releases the pressure of the reins. If the rider asks the horse to slow and the horse (for example) quickens, the rider should not change the question by (for example) turning the horse in a tight circle because then the rider has rewarded a lack of slowing by releasing the slowing pressure when the horse has not slowed. Good training is all about installing and maintaining reliable, clear habits. Therefore pressure on the reins = slowing, pressure from the legs = going forward, pressure of one rein = turn. And these simple equations must apply in every situation all of the time.

Each aid can be thought of as having three parts. The first part is the light aid, which increases in strength to become the second part, the heavier aid (if required) which is followed by the release.

1. Light aid – this is like saying, “Please”
2. Heavier aid – this is like saying, “Do it”
3. Release – this is like saying, “Thank you”

There is no gap between the light and the heavier aid. If intermittent pressures (such as small heel kicks) are used there must be no more than a second between each tap otherwise the horse will perceive the gaps between pressures as a release. It is really important that riders understand that a single heavy kick does nothing to improve the horse’s training because the only reason it makes the horse go forward is because it frightens and quite possible hurts the horse. The same is true for a single smack with the whip.

The other reason that single, heavy pressures do not train the horse correctly is because the horse has no opportunity to avoid the heavy pressure – unlike during correctly applied pressure-release because then the horse can avoid the heavier pressure by performing the required behaviour from a light aid. That’s why it is important that riders always start their aids with light pressure. Single heavy pressures also don’t train the horse about what he must do to make the pressure go away because they are rarely contingent upon the correct behaviour. When the rider gives the horse a single smack

with the whip for going forward it might work in the short term because it frightens the horse, but it does nothing to improve the long term training.

#### ***A Note on Intermittent Pressures***

*You might have been taught to use intermittent pressure to slow the horse down. That is, pull, release, pull, release. Or use alternating left/right leg pressures to increase the horse's speed. We now understand that this way of training is unclear to the horse because the release of pressure doesn't necessarily correspond to the correct behaviour. It is far clearer (and therefore safer) to apply pressure until the horse slows (even just a little bit) and then release – even if the pressure has to be applied again soon afterwards. The horse must be rewarded for every good try.*

Incorrectly applied pressure-release has been identified as one of the largest causes of incorrect behaviour in horses, so it is important that riders learn at an early age to apply it correctly. Even a beautifully trained school master will habituate to the pressure of the reins if they are not released when he slows/stops. This is not only unsafe, it also promotes poor welfare and poor riding because riders learn to balance themselves from the reins. It is useful to remind your riders that the horse's mouth is as sensitive as ours and that a hard mouth is not a result of physical changes in the mouth but is an indication that training has been unclear. No horse is born with a hard mouth; hard mouths are made by unskilled riders.

There are lots of activities that you can do with your riders to work on pressure-release. In a downward transition from walk to halt riders can count the three stages of the aid out loud. That is, "Please, do it, thank you." Or they can count "one, two, three." Older, sensible riders could form into pairs and 'drive' a blindfolded partner around a simple obstacle course using just a rope around the waist for guidance.

#### **Reward training**

The next form of learning that is covered in the D\* and C syllabus is reward training which is known to scientists as positive reinforcement. If you give the horse something that *he wants* after he does

something that *you want* he is more likely to do that thing in the future. This is an often overlooked but useful form of learning. However, it is important that the reward that is used is meaningful to the horse. Shouting “good boy” and slapping the horse on the neck are not rewarding to the horse, therefore they will not increase the likelihood of the behaviour occurring again. Horses are highly tactile creatures and stroking and scratching at the base of the wither can be very rewarding, as can food. However young riders can run the risk of getting their small fingers bitten by very food motivated small ponies, so it is best to focus on tactile rewards like scratching.

In the D\* and C manuals there are exercises to help riders find where it is that their horse likes to be scratched or stroked. It is worth noting that some horses will not respond immediately to physical rewards – the rider will have to quietly persist until some response is shown. The importance of physical touch as a way of deepening the bond between the horse and his rider cannot be understated. In modern management systems horses are often isolated and denied the physical touch of other horses – these horses will benefit from scratching and stroking from the rider.

This is an activity from the C certificate manual: “Most horses enjoy being gently stroked at the base of their neck but others like firm scratching. You are going to find out exactly where your horse likes to be stroked. What you’ll need: a helper and your horse for this experiment.

Step one – ask your subject to hold your horse in a safe place.

Step two – begin by rubbing the base of his neck just near his wither with your fingertips for at least two minutes. You can ask your helper to time you. Watch your horse’s expression. Does his bottom lip get a little droopy? Do his eyes look a bit sleepy? Does he lower his head? Does he start to blink slowly? If you answered yes to any of these questions you have found the spot he likes to have rubbed. If you answered no, try moving to the middle of his neck. Start off gently and don’t be in a hurry. You can also try gentle scratching as some horses prefer that. Eventually you will find a spot that your horse likes to have rubbed. This is really important because you’re going to use that spot to reward him during training.”

One of the fundamental rules of behaviour is this: behaviour that is reinforced will be repeated. When you reinforce a behaviour it is more likely to occur again.

- Removing pressure is reinforcing
- Scratching, stroking and food rewards are reinforcing.

The reinforcement must be given at the exact moment the horse does the desired behaviour. If you would like to reinforce good behaviour in a lesson, you must reinforce it immediately after it happens – not when the horse is tied up at the float after the lesson. Carrots given to the horse back at the float reinforce being back at the float, not good behaviour in the lesson.

You can use reward training with riders as well as horses. Stickers and sweets can be very reinforcing for younger riders and can often be used as very effective rewards. You can also build a lesson on reward training into your existing lesson plans quite simply. For example, if you have a lesson in which the younger riders do a simple task such as halt between two cones you can ask them to scratch their horse on the neck when he halts (after they have released the rein pressure of course).

If you watch horses in a paddock, they will often groom each other on the neck. So important is this mutual grooming for forming strong social bonds that there is a place on the horse's neck, just below and in front of the wither, that when scratched will reduce the blood pressure of an anxious horse. All riders should spend time finding where their horse likes to be scratched and use this to reward good behaviour. It is remarkable how effective reward training can be when it is applied effectively and often. Slapping and patting are not effective rewards because horses do not slap and pat each other when they are mutually grooming. Discourage your riders from this practice and encourage them instead to stroke or scratch their horses at the base of the wither and on the neck.

You can use reward training on your riders too. Meaningful praise delivered in an honest and genuine way is often really reinforcing for riders. As you know, it is far better to start with a simple exercise and reward riders for improvement than set the bar too high and berate them for failing! Many of the C certificate riders will be entering adolescence and as such may have trouble controlling their emotions and their rapidly growing bodies. For some students, especially those struggling at school or amongst their peers Pony Club may be one of the few places where they will receive praise and this can be very important to their emotional wellbeing. Balance and strength

may be lacking at times and they may tire easily. As a coach you will have to use your experience and empathy to adjust your lesson plans to suit students in this phase of their lives.

A thorough understanding of reinforcement is the most important thing you can teach your riders. This is because it will not only help to keep them safe (because their horses will be more obedient and calmer) but it will also safeguard the welfare of the horse.

## **Punishment**

Another form of learning covered in the D\* and C certificates is punishment. In theory, punishment (which is an aversive pressure applied after an undesirable behaviour) reduces the likelihood that a behaviour will occur again. However, in practice it is very difficult to use punishment effectively and it can be highly detrimental to the horse's wellbeing.

To be effective, punishment must occur at the exact instant of the incorrect behaviour. Two seconds after the behaviour is too late, you have simply punished the behaviour that occurred just before the punishment. For example, if the horse stops at a fence and the rider turns him away and punishes him, what the rider is doing is punishing the turning away. The horse may jump when re-presented at the fence but largely because the punishment has triggered the flight response.

Punishment is non-directive; that is it might tell the horse what *not* to do but it doesn't tell him what to do. The horse that has been punished for biting might not bite anymore but he might rear instead. The horse that is punished for refusing might not refuse but he might learn to rush his fences.

Punishment can also create very powerful associations between the horse and the person that punishes him. The horse is not particularly good at solving complex problems but he does have an extremely good memory and he won't forget a memory of fear. So, it is far better to try and use other training methods first before resorting to punishment.

Punishment assumes that the horse will change his future behaviour to avoid consequences in the future. Even adult humans have trouble with that! If we were always able to change our future



behaviour to avoid consequences in the future no-one would ever get two speeding fines and no-one would make poor health choices like a bad diet, lack of exercise, or cigarette smoking.

One of the most problematic aspects, however, of punishment is that it makes the horse's world unpredictable. When we use pressure-release training the horse can avoid unpleasant outcomes by performing the behaviour that he has been asked to do. And if the rider always starts their aids off lightly the horse is always able to stay comfortable. Punishment is unpredictable. The horse cannot stop it and he doesn't know what made it go away. Additionally, most people do not have good enough timing to deliver punishment in an appropriate and timely manner. If the unwanted behaviour is not punished at the exact instant it occurs, the rider is simply punishing what the horse did afterwards. In the past people have spoken about having three seconds to deliver punishment but this is not correct. Punishment must be contingent upon the incorrect behaviour or it is totally ineffective.

Consider the example of the horse that bucks the rider off during a showjumping round. In the past some riders would have thought it was appropriate to catch the horse and punish him for bucking them off. However, what is being punished here is being caught, not bucking the rider off. Additionally, as bucking is a flight response behaviour, punishment only makes the horse more anxious and more likely to buck in the future. The correct way to manage a bucking horse is to ride a downward transition as this will slow the horse's legs and limit the expression of the flight response.

If the rider wishes to use punishment, it is a good idea to encourage them to keep a journal of the horse's behaviour to record if their punishment is effective or not. Unfortunately we live in a punitive society and punishment is often the first course of action that many people think of.

There are many ways of dealing with unwanted behaviours that don't include punishment. Let's consider the example of a horse that bites while being rugged. One of the most effective ways to deal with that is to step the horse backward (using a headcollar or bridle) as he is attempting to bite. This tends to diffuse the biting and in many cases horses will step forward as they bite so it is usually the best option to try first. Alternatively, you can try rewarding the absence of biting – scratching or

treating the horse when he stands calmly in the presence of the rug. You can also try training an alternative behaviour while rugging such as lowering the horse's head at the approach of the rug. Finally, you could change the motivation for biting by ensuring that the horse's rug is fitted well and that the horse is not too hot. Horses make heat internally by digesting fibre so even on a cold day (minimum temperature 5C) an unclipped, healthy horse with room to move and shelter from the wind doesn't really need a rug. Horses that are acclimatised to cold temperatures can happily live in very cold climates with no problems if they have adequate roughage.

Putting several rugs on a horse, particularly rugs that don't fit well or impede the horse's natural range of movement, is likely to be highly aversive for the horse as his need for freedom of movement is very important.

### **Habituation**

Habituation is just a fancy way of saying 'get used to'. A lot of the horse's training involves him habituating to various things. The saddle, the weight of the rider, birds flying past, the sound of cars, loudspeakers for example. Some breeds of horses don't habituate quickly whereas others do. Horses that habituate slowly need to be carefully managed during the habituation process or they can become more frightened of what it is that the rider is trying to habituate them to. There are several methods of desensitisation that will be covered in great detail in the C\* coaching manual, but in the context of the D\* and C certificate, the most important message is that habituation should be very gradual and control over the horse's legs must be maintained at all times.

If, for example, the horse is frightened of bunting at a show and the rider tries to force the horse up to the bunting the horse may, in the long term, become more frightened. It is far more efficient to allow the horse to look at the bunting and then approach slowly, stopping and allowing him to examine it every few steps and rewarding calmness. Interestingly it takes about 15 seconds for the horse to switch from fear to curiosity so, encourage your riders to allow their horses to look at a new scary object for at least the count of 15 before trying to approach further. Because the horse has no prefrontal cortex he cannot 'pretend' to be frightened as he lacks the brain capacity for pretence.

When the horse remains calm in the presence of a previously scary object, the rider should be quick to reward.

When people try to habituate the horse to something scary all at once this is called **flooding** and it isn't ethical and is usually very ineffective as well as being extremely stressful for the horse. Slow, methodical training is always a far better approach than rushing and frightening the horse.

It is a useful exercise to get your riders to make a list of all the things that the horse must habituate to when he is first started under saddle. They could then make a separate list of the things that the horse must habituate to when he first starts to go to shows. Humans habituate too. People who live near highways and airports stop hearing the sounds of trucks and planes after a while. You could discuss this with your riders and perhaps get them to list the things that they have habituated to (wearing a watch, the sound of the road etc).

### **Classical Conditioning**

Classical conditioning is a significant, though often misunderstood or ignored, component of horse training.

Here is an excerpt about classical conditioning from the C certificate manual:

“Classical conditioning was first written about by a Russian scientist called Ivan Pavlov early in the 20<sup>th</sup> Century. Pavlov was studying the process of digestion in dogs, observing the flow of saliva (spit) and digestive juices in the stomach. According to legend, Pavlov had an assistant who would bring food to the dogs every day using a trolley that happened to have a squeaky wheel. It wasn't long before the dogs would hear the squeaky wheel and start to salivate, anticipating food.

Pavlov thought this was interesting and he set up some experiments to find out more. He rang a bell and then gave the dogs some food. He soon discovered that if he repeated this several times, he could eventually ring the bell and the dogs would salivate without any food at all. Pavlov called this process classical conditioning.

In classical conditioning a stimulus (such as a sound or a smell) becomes paired with a reflex or a learned behaviour. So, in Pavlov's experiment the sound of the bell became paired with the reflex to salivate."

The rider's seat, voice and weight aids work because classical conditioning pairs them with aids trained via pressure-release. That is, they precede and therefore predict the onset of the pressure-release aid, in the same way that Pavlov's bell predicted the onset of food. Just before the rider applies pressure on the reins (for a downward transition) they inadvertently shift their weight slightly and slow the following action of their seat. This movement becomes paired with the rein aids so that eventually the shift of weight and the slowing of the seat will elicit a downward transition.

There are some important things to understand, however, when it comes to classical conditioning:

- It only works as well as the pressure-release aids that form its foundation. The rider's seat will not stop the horse if the rein aids are ineffective. It is far more efficient to train the horse correctly first with pressure-release and then add the classically conditioned aids when the training is reliable.
- The classically conditioned aid must occur before the pressure-release aid. If it occurs afterwards or at the same time it will be ineffective.
- Just as with all training, classically conditioned aids require maintenance. That is, the pairing of the classically conditioned aid and the pressure-release aid must be ongoing.
- Classically conditioned aids may not be as effective in times of stress as pressure-release aids. That is, if the horse gets a fright it will be more effective to use the rein aids than the seat aids.
- The classically conditioned aid must be the same each time. If the word, "whoa" is paired with a rein aid then it must be delivered in the same way and in the same tone each time.

## Ground work ('On the Ground')

The most significant change to the new pony club curriculum is the addition of ground work. You might feel daunted by the prospect of teaching this but if you can lead, halt and step a horse backward you can teach your students ground work.

The same rules for safety apply for ground work as applied in previous certificate manuals for handling and lunging (at the higher certificate levels). These rules include never wrapping the rope around fingers/hands/waists/necks and wearing appropriate safety clothing, including a helmet and gloves. Many serious accidents occur while horses are being handled, so ground work is an important skill for young riders to learn. It would be quite appropriate for you, as a coach, to wear a helmet when coaching ground work to set a good example for young and impressionable riders.

It is also really important to ensure that handlers maintain safe distances at all times during ground work lessons. Young children can get distracted easily and their peripheral vision is not as well developed as an adult's, so this maintaining this can require almost constant vigilance! You might find it useful in ground work lessons (especially with younger D\* riders) to give each rider a cone to stand next to so that they don't inadvertently let their horses drift towards each other while you are explaining. On a similar theme, it is important to teach young riders good management and bio-security practices. You can explain to them why it is not a good idea to let their horse touch other horses at Pony Club as it can spread disease and lead to accidents. Hopefully your student's horses will have other horses to interact with when they're not at Pony Club.

Ground work improves welfare because it increases the clarity of the signals used to control the horse in day to day management tasks. It improves safety because it is an effective way of both testing and deepening the responses used under saddle. It is also a safe way to teach important training techniques such as pressure-release, reward and classical conditioning.

There are two ground work positions. When training in-hand (in fact, when leading anywhere), you should use one of them. In the early stages of ground work training we use Position 1 because it allows us to see every movement that the horse makes which helps us to reinforce the correct

responses with greater accuracy. Ensuring that handlers have a clear understanding of safe practices on the ground should be a priority for coaches.

### Position 1:

The student should stand on the horse's near side, facing **backward** and looking toward the horse's left hip:

- The student should stand beside the horse, never directly in front, in case he gets a fright or strikes with his front legs
- The reins should be held in the left hand, at most 15cm from his chin
- This position is used when training set back and park. It is also used when holding the horse for the farrier and vet – although of course the handler would change sides so that they are on the same side as the vet
- During all ground work, maintain an upright body position and focus.

### Position 2:

The student should face **forward** (the same direction as the horse), standing on his near-side, next to his cheek.

The student's feet should be about 1m (3ft) or less from the horse's hooves.

- The reins should be held softly in the student's right hand, at most 15cm from the horse's chin, with the excess rein in the left hand.



*Position 1 (here showing step back)*



*Position 2 (here showing stop)*

## Stop

Stop is the first exercise in the Pony Club ground work syllabus. The following is an excerpt from the C manual:

“The first response we’re going to practise is stop. This is the most important of all the ground work responses because it gives you a clue about how the horse will respond to the slowing and stopping aids under saddle. The stop response has three parts: step back, stop and slow. If your horse speeds up when you lead him, walks over the top of you or jogs and gets tense, he probably needs some work on his stop response.

### Handy hint:

If you are ever asked to ride an unfamiliar horse, before you mount, try making him step back. The amount of pressure it takes gives you an idea of how good his stop response under saddle is. If it is really heavy, you need to be very careful when you ride him as he almost certainly won’t stop and slow well under saddle.

We are going to start with the step back. Stand in front of your horse’s left shoulder, facing him. Without moving your legs, apply pressure on the reins towards the middle of his body. How much pressure did you have to use before he took a step backward? If it took quite a bit of pressure – we need to work on the stop response! The horse is very sensitive, and he is much more content when his training is clear and he can be controlled using light signals. We want to be able to move him backward with about as much weight in our hands as a chocolate bar.

If your horse is very heavy, make sure you start your pressure very lightly. Then, in the time it takes you to count to three, gradually increase the pressure. As soon as he takes one small step backward with one front leg, release the pressure totally and scratch or stroke him. It is really important to remember that the pressures you use should never be painful – they should just be slightly annoying for the horse.”

As noted, the stop response has three components and these are stop, step back and slow. It is very important that stop is both well trained and maintained because it is the best way to limit the

expression of the flight response. Remember that it is the **release** of the pressure that trains the horse, not the pressure – that just motivates him to change his behaviour.

It is wise to practise ground work in both a bridle and a headcollar. Using the headcollar for ground work will improve the horse's behaviour for daily management tasks, while using the bridle will improve the stop response under saddle.

***Why the lead rope, not the chest?***

*Many riders use pressure on the chest to stop their horses backward and this is a useful aid. However, it is important for safety that the horse also stops from lead rope pressure only – because this is the pressure that will stop him in a hurry when required. If the horse gets a fright while being led the safest and easiest way to stop him immediately is to apply pressure to the lead rope.*

It is important to realise that when new behaviours are being learned they are very fragile and will not stand up under pressure. Horses learn by context so in the beginning, while the student may be able to elicit a stop response from a light aid in the arena, that response may be less reliable in a different place. This is a normal part of training and occurs because of the horse's almost photographic memory. When the horse learns about stop in the arena, he doesn't just learn about the pressure on the reins he learns about the tree at the end of the arena, the letters around the outside and the floats in the distance. When he is first learning he isn't sure that stop is *just* pressure on the reins. So, when the tree at the end of the arena and the letters around the outside aren't there he may not be as light or reliable.

Generally speaking, you will need at least five different places to train each behaviour until it is generalised – that is, will occur in almost all contexts. This is true for all behaviours. Young and inexperienced horses need a lot of repetition in different areas in order to generalise.

**Activity:**

If you have a group of students who are proficient at ground work it is interesting to ask them to give their stop response a score out of 10 (if one is really light and 10 is really heavy). Then, change the



context – move the group into a different arena or onto the cross country course and ask them to do the same thing. You may find that even some of the more experienced horses are not as light or reliable in a different context. Making the stop response reliable in all situations will significantly improve rider safety.

Adrenaline (the hormone secreted in times of stress) acts on the horse's habits like fertiliser on a paddock full of weeds. If the rider often allows the horse to move forward without an aid, when the horse is adrenalised he may leap forward and become quite uncontrollable. Teaching students to be absolutely clear with their aids at all times is one of the best ways to produce calm, reliable horses.

The pressure used to achieve the step back should always start lightly and increase until the horse begins to take a single step backward. Some (small) students may need help to achieve the first few backward steps. It's worth remembering that if the student cannot step the horse back the probability that they can stop the horse quickly in an emergency situation is also very small. Therefore, the step back is an extremely important component of safe training.

Once the student can achieve a single backward step it's time to work on two steps (that is, a step backward from both front legs). You can think of this as 'buy one get one free'. Pressure is applied as previously but instead of releasing as the first leg moves backward, keep increasing the pressure until the second front leg begins to move backward and then release and reward. Pretty soon you'll find that the horse will take two steps backward from one pressure. This is important because it means that he has taken a whole stride backward which strengthens the behaviour and makes it clearer.

If the horse is not standing square with the front legs, you will notice that the leg that is furthest forward will step back first. This is because it was the last leg to stop. You will also probably notice that some horses are heavier when one leg (often the offside foreleg) is forward. It is well worth addressing this and ensuring that the horse is symmetrical in his responses.

Make sure that the student can achieve two backward steps from a single, light pressure regardless of which front leg is the most forward in the halt.

### **Asymmetry**

*All horses are lateralised, that is, their legs work in diagonal pairs. So, what happens to the right front leg also happens to the left hind and what happens to the left front leg also happens to the right hind. Each of the diagonal pairs works a little differently. One pair is often harder to slow and the other is more difficult to quicken. This is why horses are often asymmetrical – because they take slightly different length steps. When the horse is really asymmetrical he may appear lame. This is often known as bridle lameness – a gait asymmetry that is caused by crookedness not pain.*

Once the student can step their horse back from a light aid they can use classical conditioning to train a voice command as well. This is particularly useful for sensitive horses, as it allows them to predict the onset of the aid.

The student can use any word at all as an aid for step back (because the horse doesn't actually understand the word, he simply learns it as a cue) but whatever they use must be consistent and delivered in the same way each time. In the C certificate manual we have recommended the word "back" for simplicity and ease.

To train a voice command the student should:

- Say the word "back"
- Apply pressure to the reins
- Release the pressure when the horse steps back
- Reward the horse with a scratch on the wither.

You will find that after a dozen or so repetitions the horse will step back without the use of the rein. However, as with all classically conditioned aids, it shouldn't be relied upon but rather should be seen as a way of making the pressure-release aids lighter.

The next exercise will be to practise downward transitions from walk to halt. The students will be in position two for this exercise. Set up pairs of cones around the arena and ask the students to halt their horses between the cones. Ideally the students will be able to halt within two to three steps of their horse's front legs. If they can't do this, return to the step back exercises because this will help improve the stop.

### **Slow**

Students should also be able to slow their horses when leading them. The aid for this is the same for stop/step back but lighter.

Once the students can stop and slow clearly, it is useful to get them to practise going forward as well. The aid for go forward on the ground should be a slight pressure on the head collar in the direction of travel. The rules of pressure-release apply just as much to the go forward aid as they do the stop aid so make sure that your students release the pressure as soon as their horse takes a step forward.

For horses and ponies that are reluctant to go forward it is very important to be extremely clear about the release of the pressure – even if the handler has to apply the aid again immediately afterwards. Remember, the release of the aid is the most important component; the pressure just motivates the horse, the release is what trains him.

Once your students can go forward and stop their horses from light signals you can practise turn. Try and encourage the students to turn the horse away from themselves – that is, to turn to the right. That is the safest way to turn because it is unlikely that the horse will stand on their feet or run them over. (In reality, your students will turn their horse both left and right in normal management situations. If the horse has a reliable stop response, he will become much safer in all handling situations, including turning to the left.)

You can use the following instructions to teach your riders how to turn their horse on the ground:

- Take your right hand sideways (not backwards) to the right and as your horse steps in that direction release the pressure.
- You might have to use three or four turn aids to get around a corner but it's much clearer for your horse if you release the pressure as he turns and then ask him to turn again rather than keeping your turning aid on for a long time.
- Practise your right turns until these are reliable and not hurried before practising your left turns.
- Take your right hand sideways (not backwards) to the left to ask your horse to turn to the left.
- Make sure he doesn't quicken his pace as he turns because this will make him more likely to step on your toes.
- If he seems to get closer to you during the turn, ask him to turn then slow him with the lead rope or reins.

Tip: Most horses only drift towards the handler if they are quickening.

You can create exercises for your riders to practice. For example, you can place your cones in a square with sides of about 10m and ask your riders to walk around the outside of the cones. You can incorporate the other things they have learned as well, using the cones to mark the place where you want them to stop, slow or go faster. Asking the riders to also lead their horses around the inside of the cones will help them develop accuracy.

Once your students can stop, slow, go and turn on the ground there are lots of exercises and games that they can play that will assist learning. Try an unmounted treasure hunt or a ground work obstacle course (halting between cones, walking between parallel poles etc.). You could also use a metronome to set the rhythm for walking and by altering the rhythm help the students to walk slower and faster. Note: most horses will walk in hand at between 45 and 55 beats per minute. But you could set it as slow as 30 beats per minute (bpm) to teach them very slow walk.

### **A note on shaping . . .**

When the young event horse is first trained to saddle no-one expects him to jump into water. This behaviour is gradually shaped over time so that, at every stage of training, the young horse is proficient at the job that he is being asked to do. This is shaping – the process of gradually changing behaviours over time.

Although riders at D\* and C level are not expected to understand the shaping process thoroughly it is useful knowledge for you, as a coach. In the higher certificate manuals students will learn all about the shaping scale which is basically a blueprint for behaviour change. The shaping scale provides answers for questions when training as it prioritises certain aspects over others. For example, the shaping scale informs us that the horse is more likely to become straight once he can stop and go forward from light aids and maintain a consistent rhythm. The shaping scale can be applied to both ridden and ground work.

The shaping scale is a series of questions that you can ask yourself about the horse's responses.

- Does he do it?
- Does he do it immediately from a light aid?
- Can he maintain a consistent rhythm while doing it?
- Does he stay on the rider's line and reasonably straight through his body while doing it?
- Does he maintain a reasonably steady contact on the reins while doing it?
- Can he do it everywhere?

You will find that making sure you can answer those questions **in order** will help improve the results of training. That is, we wouldn't expect that a horse will be able to maintain a steady contact if he doesn't stop from a light aid. We wouldn't expect that a horse that cannot maintain a consistent rhythm will be able to maintain correct flexion. The training scale (p43) offers us an insight into the way that the foundation responses are trained and maintained.

## **Park**

The C certificate syllabus includes park. This basically means that the horse will stand still without constantly being reminded. Park is a really important part of training, not only because there are

many times in the daily management of the horse when standing still is useful (rugging, holding for the farrier etc) but it also tells us a lot about what the horse understands about stop and go. A horse that is well trained in the stop and go forward responses will not only stop and go forward when given the aid to do so, he will also *not* stop or go forward without the aid. That is, a well-trained horse will not randomly stop or go forward unless he is given an aid. This is a very important and often overlooked aspect of correct training.

Because they are fantastic at learning by classical conditioning, horses often learn to follow their handler's legs. However, in training, we want the rules to be the same always and the problem with letting the horse follow the handler's legs is that it is a rule that is often broken such as when the horse is tied up in the washbay or in the float. It is much clearer for the horse if the handler is absolutely clear that the horse should only step forward when given a light aid.

When teaching park, it is useful to imagine that the horse's front legs are in a circle of about 1m in diameter. Drawing circles in the sand of the arena and asking the students to stop with their horse's front legs in the circle is a really useful way of helping them to visualise this. If the horse steps forward out of the park circle, correct him by stepping him back. If he walks backward out of the park circle correct him by stepping him forward. If he walks sideways out of the park circle correct him by stepping him back and then returning him to the park circle.

Correcting sideways by stepping the horse backward is quite important because some students will want to correct it by stepping the horse sideways. This will not help train park because the sideways steps are a failure of the stop response. Therefore the correction must be focused on making the stop response clearer.

When the student's horse is in the park circle, the student will step backward, away from the horse. When the horse steps forward the student will correct him with a backward step as explained above. Using the voice command that was trained in the earlier ground work sessions will be very useful here. Continue doing this until the student can step to the end of the reins without the horse moving. This can take several repetitions.

Once the student can step to the end of the reins without the horse following them they can try taking steps to the side, stepping around the horse in a shallow arc. It is important that the students try to build on their successes. Therefore they should take one step to the side and, if that is successful, return to the centre and reward the horse with a scratch before attempting two steps to the side. And so on.

When that is established the students can try stepping forward from beside the horse. You will almost certainly find that this is more difficult from the near side as the horse is used to being led from that side. However, if you continue to use the corrections from above you will soon find that the horse will stay still while the student moves around at the end of the reins in any direction.

Park is very useful for young horses when they first start going out to shows because it trains them to be under the control of the rider and not the environment.

The D\* and C manuals have simple ground work dressage tests that the students can use to test their training. You can adapt these to include challenges such as walking over a bridge or through a ditch depending on what facilities you have to work with and the experience of your students. Just remember that the first priority must always be safety.

## Riding ('In The Saddle')

Even if you have never encountered equitation science before, the ridden syllabus of the new Pony Club manuals will still seem quite familiar. Safety precautions, mounting and dismounting, the gaits, rider position, school figures, checking the girth, changing the stirrups, riding in a group, riding safely on the road . . . all these things remain the same. It is simply that an understanding of the processes by which the horse learns have been added as a way of improving rider safety and horse welfare. The forms of learning that were introduced during ground work will be used once again under saddle: Pressure-release, reward training and classical conditioning. It is important that your students are familiar with these terms, understand them and can apply them in all situations.

At D\* and C certificate level the foundation responses are stop, go forward and turn. They are trained and maintained primarily with pressure-release but strengthened and improved with reward and classical conditioning. It is very useful to encourage your students to incorporate reward into their daily riding. A scratch on the neck might not seem like much to the rider but it can be very beneficial to the horse. Remember to discourage your riders from slapping their horse on the neck as this is not rewarding at all.

### Stop

The aid for stop and slow is pressure on both reins. There should be no leg aid used during downward transitions as this is confusing for the horse. At the higher levels of dressage, the rider can briefly ride the horse forward before applying the rein aid but this is not relevant to riders at D\* and C certificate levels – at this level the aids must be separated by several strides.

This is a brief excerpt from the C manual about the stop response under saddle:

“The stop response under saddle includes both stopping and slowing. If you want to **slow** your horse, you apply a light pressure to both reins until he slows down and then you immediately release the pressure – just the same as you did in hand. If you want to **stop** your horse, apply a light pressure to the reins until he stops and then immediately release the pressure. Remember your pressures should only ever be mildly annoying and never painful. You may not be very big or strong but if you



pull hard on the reins you will hurt your horse's mouth. You should never jerk or seesaw on the reins for the same reason.

You should aim to hold the reins with only enough tension so that they remain straight and don't sag. This way you will keep a nice, soft contact with your horse's mouth. Your rein aids can be really light when you have a contact because the horse will be able to feel every movement of your hands. If you have to take up the slack in the reins every time you need to ask your horse to stop, slow, or turn – it is a bit like having a phone conversation and having to redial every time you want to speak. If you have tight reins all the time you are constantly applying the signal for stop – it's uncomfortable for the horse and he will get confused."

Ideally, we want the horse to do a downward transition in two steps of his front legs. When you are coaching you will notice that when horses are able to achieve this they will usually stop quite smoothly and reliably. Horses that stop in less than two steps often stop very abruptly and horses that take more often get very heavy in the downward transition and often also lengthen their necks as they stop.

When training, the goal is to create reliable habits that can be elicited with light signals. If the horse sometimes stops in three steps, sometimes in four and sometimes drifts sideways when halting or maybe doesn't even halt at all, the rider is not creating habits – they are creating confusion!

Once the transition from walk to halt is reliable your riders can do downward transitions from trot to walk. They should aim to achieve these transitions in two front leg steps as well. This is easy for them to count when they're in rising trot. If they are in rising trot and they start their transition as they sit, the horse should be walking by the time they've gone rise / sit once more. These transitions will take a bit more practice at trot because everything happens a bit more quickly.

When the trot/walk transition is reliable riders can attempt trot/halt transitions. These can be achieved in four steps of the front legs. Riders should be encouraged to keep their elbows by their

sides and to concentrate on staying in the deepest part of the saddle during this transition to avoid tipping forward.

Here is an excerpt from the C certificate manual about practising straightness during downward transitions: “You should practice your downward transitions all over the arena, not just against the fence. If your horse drifts or swerves during the transition it is most probably because one pair of his legs is not stopping or slowing as well as the other. It helps to train him to remain straight if you use a little bit more rein on the side of the front leg that doesn’t stop as well. For example, if your horse drifts left in the downward transition, try riding the downward transition with a little bit more pressure in the left rein. You are asking all your horse’s legs to stop but you are asking the left front leg to stop a little bit more than the others. Don’t try to keep him straight with your legs. That would be using two aids at once and that could confuse him. Just imagine if your teacher told you to sit down and stand up at the same time. You would get very confused!”

Riders can practise downward transitions on the quarter lines to check for straightness. It is easy for you as the coach to assess straightness if you stand on the short side of the arena at the start of the quarter line. You might find that when your riders first begin practicing their transitions on straight lines rather than circles that initially it might be difficult to achieve the downward transition in two steps. However, with repetition the transitions will soon be good all over the arena.

At this stage riders are ready to learn about self-carriage. Self-carriage means that the horse does not change his tempo or line unless given an aid to do so by the rider. You can think of it like this: if you trained your pet bird to sit on your arm you wouldn’t consider the job complete until he stayed on his own. If you have to tie the bird to your arm with string, your training needs improvement. If the horse has to be continually slowed, quickened or corrected for line his training needs improvement.

It used to be believed that self-carriage was something that developed as the horse progressed through the dressage levels. However, we now know that self-carriage should be prioritised at all stages of training. As a way of explaining this concept to riders it can be useful to encourage them to

give and retake the reins over two to three strides. If the horse slows, quickens or loses line then he is not in self-carriage. Start with a give and retake of the reins on a circle and progress to practising on straight lines. It might be useful to ask the riders to do it one at a time – set up some cones (make sure they're not too close together or they may help to keep the horse straight) and ask the riders to give the reins as they ride through them.

Once they have mastered this exercise at working trot, ask the riders to slow their horses. You can use a metronome for this. Working trot tempo is approximately 75 bpm and 70 bpm works well for a slower trot. Use the give and retake of the reins to ensure that the horses are maintaining self-carriage in the slower trot as well.

### **Go forward**

The aid for go forward is pressure of both legs below the knee. At D\* and C certificate level if the rider requires a whip they will have to pass their whip licence by demonstrating both an ability to use the whip correctly and be able to understand the forms of learning which underpin its use.

In the beginning of a ridden session it useful to ask riders to give their upward transitions a score out of ten for lightness. Ideally, we want the horse to be around a two or three out of 10 because the aids should never be painful, only ever mildly annoying. Remember, it is the release of the aid that trains the horse. Focus on the release of the pressure if you need to improve the horse's go forward response.

This is an excerpt from the C certificate manual about 'lazy' horses:

"Some horses are always slowing down. These horses are often called 'lazy' but really it's just a gap in their training. They need to be trained to maintain the tempo of their legs until the rider gives them the aid to slow down. If your horse is constantly slowing down it can be quite tempting to keep nudging him with your leg to keep him at the required speed – a little bit like peddling a bike up a hill. But your leg aid should always mean 'go forward', it shouldn't mean 'keep going'. Every single time you use your leg your horse's legs should move faster. If you use your legs all the time without releasing (like pedalling a bike) your horse will learn to ignore you. Ideally you want your leg aids to

work as though you were riding a skateboard down a hill – one small nudge and you glide along for ages.

If your horse slows in the walk, do an upward transition to trot and, after a few strides, ride a downward transition back to walk. Remember not to pedal! Make sure you only use your leg to mean go forward. It's a little bit like daring your horse to slow down and when he does, correcting him with an upward transition. If you're very careful to use your leg correctly, pretty soon he will learn to maintain his own tempo. Just remember, you are the drummer in the band and you decide on the tempo of your horse's legs."

Many horses learn not to respond to the go forward aid because they are ridden with conflicting aids, that is, rein and leg aids together. Because it is impossible for the horse to go forward and stop at the same time these conflicting aids are confusing for him and need to be avoided at all costs. Riders at this level should be starting to develop their ability to hold a steady, light contact on the reins. This means that their hands are still while the horse is trotting, but in the walk and the canter they move diagonally forward and downwards to accommodate the moving of the horse's head and neck.

Once riders have good control of the horse's tempo at walk and trot, they can begin to canter. If you are going to use a metronome, the tempo for working canter is around 95 bpm. Many horses get excited when cantering which is why, in a lesson, it is often a good idea to ask them to canter one at a time. If the horse rushes once he returns to trot it is a signal to the rider that the canter has made him adrenalised. Ask the rider to work on maintaining a consistent rhythm in the trot straight after the canter or, perhaps even using a slower trot to re-establish self-carriage.

In the canter it is easiest for the horse to adjust his tempo during the moment of suspension because that is when all his legs are off the ground. It isn't difficult to determine when the horse is in the moment of suspension because it is when his head and neck are at their highest. This is the ideal moment to apply a slowing aid.

It can be useful to ask riders to watch a horse cantering in slow motion (on video) so they can clearly see the moment of suspension and how it relates to the position of the horse's head and neck. They could then watch a horse cantering at normal speed and try to identify the moment of suspension in their own horse.

## **Turn**

This is an excerpt from the C manual about turning the horse:

"Before we start training turn, we're going to do another experiment. What you'll need: a safe place to crawl around.

Step one – get down on your hands and knees.

Step two – crawl around on the ground turning left and right. Imagine that you are a horse and pay particular attention to how you turn. How did you make your body turn left? If you said that you moved your left arm away from your body while it was in the air, you would be perfectly correct. How did you turn right? If you said that you moved your right arm away from your body while it was in the air, you would be perfectly correct. It's the same for the horse. In order to turn left he must move his left front leg away from his body while it is in the air. In order to turn right he must move his right front leg away from his body while it is in the air.

This might sound very complicated but it's very useful to understand it before we begin training turn. When you want to turn your horse to the left you first look in the new direction. Then, by moving your left hand slightly away from the horse's neck you apply pressure to the left rein. This is called an opening rein. Your right hand stays in its usual position on the right side of the neck and keeps just enough tension on the rein to prevent your horse from bending his neck too much. In a correct turn the horse will bend his neck very slightly in the direction that he is going. His neck should make a very gentle arc. You should be careful not to pull his nose out past the point of his inside shoulder or you could unbalance him. As soon as the horse has turned you should release the pressure of the rein by moving your hand back to its usual position.

Sometimes, when riding young horses and horses that aren't clear in their training, the rider might have to open the rein quite a lot. But over time that aid can be made smaller and smaller until

eventually just a little bit of pressure on the turning rein will produce a turn response. It's important to remember that the aid for turn is always an opening rein and never a rein that pulls backward. That usually just encourages the horse to bend his neck.

You don't need any leg aids for turn. When we train the horse it is important to only ever give one aid at a time because the horse can't do two things at once. If you always make sure you look in the direction that you are turning and release the aid as soon as your horse has turned, he will soon learn to turn from very light pressure.

Turning the horse from a rider's leg aid is confusing for the horse because turning refers to sideways movement of the horse's front legs, which can be produced mainly with the rider's rein. Movement of the horse's hind legs can be produced mainly with an aid from the rider's leg (pressure from one of the rider's legs, not both legs together). Sideways movement of the hindlegs is called yielding. Turning and yielding are so biomechanically different that a horse could not be expected to discern between the same aid being given for turn and yield. This would result in a level of confusion that would undermine the aim of training light and clear responses and pose a welfare concern. Sadly, applying leg and rein aids simultaneously often leads to horses being labelled as stiff, 'dull to the leg' or 'hard mouthed'. Having different aids for turn and yield removes confusion for the horse, makes training faster and safer, and gives the horse the best opportunity to respond to the rider's demands.

You are going to practise your turns at walk first because it's easier to see what is going on. Use your cones to mark out a square with sides of about 15m. Ride around the square being careful to stay about 80cms away from the cones. In the corners you should release the turning aid once you see the horse's inside front leg move a little bit away from his body. In the beginning you might need two turning aids to get around each corner of your square but you should soon be able to turn using just one, light signal."

A circle is actually quite an advanced turn exercise because the horse must turn a little bit with each step. Riders can often spend most of their time with the inside rein aid on, which is not useful for the

horse's training. It can be useful to ask the riders to visualise the circle as a clock face and to turn at 12, 3, 6 and 9 o'clock. This way they can apply the aid and release it again as the horse turns.

Once the aids for basic turns are light and immediate, the horse very quickly learns to turn from the rider's body position. He does this via classical conditioning. Therefore, it is important that the rider's position on the circle is correct – that is, that the rider looks ahead on the circle with slightly turned shoulders. Horses are creatures of habit and are wonderful at classical conditioning, therefore the rider's rising diagonal will play a significant role in predicting the direction of the turn. This is why on a serpentine the rider should change their rising diagonal just after the centre line to prepare the horse for the new turn.

The number of ways you can practise turns is only limited by your imagination. School figures are just turns and straight lines, so every school figure involves turning. It is very useful to use cones to mark out exactly where the turns will take place. Too many riders are not exact about riding line and this can be very confusing for the horse and detrimental to his training. If the horse learns to turn in a delayed or random way it can lead to shying and napping because these behaviours are just turns that the rider didn't ask for. Also, for eventing riders, the very narrow fences that are an increasingly common obstacle require a horse with well-trained turn.

It is important not to let the riders become complacent when riding in the arena and let the fence turn the horse. When the rider is approaching the corner of the arena, they should still apply a very light turn signal because otherwise the horse is turning without an aid and this is confusing for him. Remember the rules of training must stay the same regardless of the situation.

A very good exercise for turn is to place cones in a square with sides of about 15m. Ask riders to walk their horses around the square paying particular attention to the immediacy and weight of the aid. The horse should turn with a small degree of flexion (at the poll) and from light aids. Riders should use their outside rein quietly (against the horse's neck on the outside) to prevent too much neck bend.

Once the turn is clear and reliable at the walk you can start practising at the trot. Start by asking your riders to ride shallow loops all the way around the riding area. Try to determine if the horse is turning equally well in both directions. Does he speed up or slow down through the turn? Does he bend his neck more one way than the other? Is one turn heavier than the other? If he speeds up or slows down as he turns, the rider can correct that before and after each loop. If his neck bends more one way than the other, the rider should be careful to use the opposite (outside) rein to help keep his neck straight during the turn. If he is heavier to turn in one direction the rider might have to make the second part of their signal a little stronger and pay careful attention to releasing the aid as the horse turns.

As well as training the horse to turn it is very important to train him not to turn unless he's given the aid to do so. This is true of all the foundation responses. The horse should not stop, go or turn when he is being led or ridden unless he is given the aid to do so.

This is a useful exercise to train the horse not to turn. Ask riders to pick a point in the riding area and ride the horse directly towards it without holding him on the line with the reins. Ask them to make a little loop in the reins so that they're not tempted to cheat! If the horse's legs drift away from the rider's line the rider should use their turning signals to correct him. Most horses will drift one way more than the other. If the rider can catch the drift fairly quickly the horse will soon learn to stay straight on his own. Depending on the experience level of the riders this exercise can be done at trot and canter too.

### **Footfalls and riding without stirrups**

A thorough understanding of the horse's way of moving is very useful for riders as it can inform when they apply their aids. When the horse is cantering it is easiest for him to slow down if the aid is applied during the moment of suspension. Therefore, being able to identify this is important. At D\* and C level it is useful if the riders begin to understand that where the horse's legs are when they apply the aid will influence the effectiveness of their aids. This will become more important once lateral work is introduced (at C\* level) as it is easiest to influence the hind leg to step over when it is in the swing phase (that is, in the air, not on the ground).



Putting different coloured bandages or boots on a horse's legs can make it easier for the riders to see the movement of the horse, as can slow motion videos. Allowing riders to walk with the reins in one hand and the other on the horse's shoulder (if it's safe to do so) can also help them learn the feel of the movement.

At this level riders will also be asked to ride without stirrups. Inexperienced horses may never have felt the stirrups crossed over the saddle and it is important to approach this task systematically. The following is an excerpt from the C certificate manual detailing a way to approach this exercise:

"If you have never ridden your horse with crossed stirrups it is important that you approach the task slowly and carefully. Some horses can be startled by the feel of stirrups in an unaccustomed place. Take your time and be patient and you will eventually achieve your goals.

While halted, take your right foot out of the stirrup and carefully cross the stirrup over the horse's wither. When your horse stands quietly, reward him with scratching. Next, take your left foot out of the stirrup and cross the stirrup carefully over the horse's wither. Again, reward your horse with scratching when he stands still. When you first move off at the walk be careful not to allow your horse to hurry as this will make him tense and fearful. Halt several times and reward your horse when he stands still. If your horse is much heavier to halt than usual it could be because he is overshadowed by the unfamiliar sensation of the stirrups against his shoulders. Continue to walk and halt quietly until his responses are back to normal."

Remember, at all times safety is your highest priority and a tense horse is not a safe horse.

## **Poles**

When riders are learning the jump they will make mistakes. The size of the mistake is directly proportional to the size of the jumps – so to avoid overfacing both horse and rider keep the jumps small.

Before doing any jumping riders should be able to do a trot/halt transition from a reasonably light aid. Jumping can be very adrenalinising for horses and this can mean that they become difficult to control. It is far better to work quietly on establishing reliable basic responses before jumping than rush into jumping and allow the horse to practise tension. The horse's foundation responses should be checked in the area in which he is going to jump. Just the sight of jumps may be enough to make some horses tense and anxious. Make sure that the rider can control the horse with light aids before progressing to jumping.

***Rushing and flight response***

*Many people think that horses that rush their fences just love jumping. This is not true. Rushing horses are exhibiting the flight response which means that the jumping experience is adrenalinising for them. A rushing horse is a frightened horse. It is very important for the horse's welfare that he learns to jump in a calm and obedient manner without changing rhythm.*

The horse has very different vision to ours. His vertical field of vision is far more narrow. If you place one hand across your brow and the other just under your eyes (making a sort of letter box) it will give you a bit more of an idea of what the horse sees. Therefore, when jumping it is really important that riders do not try to alter the horse's head carriage on the approach to the fence. A calm, well trained horse will learn to approach fences with his head positioned so that he can see them clearly. Depending on the conformation of the horse's head this position can vary considerably. This also applies to riding across country and across undulating ground.

Poles are an excellent way to introduce both horses and riders to jumping. Start in walk with single poles and ensure that the horse doesn't change his rhythm either before or after the pole. If the horse rushes at the pole ask the rider to ride a downward transition to halt within three strides after the pole and, when the horse stands calmly, reward him with a scratch on the neck.

Doing a downward transition after the pole is a useful exercise as a way of testing if the pole has impacted upon the horse's foundation responses. If the horse is light in the downward transition without a pole but heavy after walking over a pole it is clear that the pole has affected the horse's

responses and therefore needs many repetitions of the same exercise before moving on to jumping. Young riders don't always have an abundance of patience, but time spent in the early stages of jumping will be rewarded later in the horse's training.

If you consider jumping in the context of the training scale (page 43), first it is important that the horse's responses remain light and immediate. Next, it is important that the horse can maintain an even rhythm over the pole. To test this, you can place poles all over the arena and have the riders trot over them being careful to maintain a rhythm. You can use a metronome to assist with this. Any major losses of rhythm (rushing) can be dealt with by riding a downward transition.

Next, the rider must be able to ride the horse without major losses of line. It can be useful to mark the middle of the poles with tape and assess how accurately the riders can ride. Short poles (1.2m in length) are also useful because they encourage accuracy. However, when first using short poles it is useful to place cones on either side to assist the riders as it is important not to allow the horse to develop the habit of swerving around the pole. Placing poles on curving lines is another way of encouraging accurate riding, though you must always build towards these more difficult exercises very gradually so that the horses and riders can confidently achieve these harder questions.

## **Jumping**

Horses aren't very good at extrapolating. That is, they can't look at something for the first time, let's say a miniature pony, and reason that because it looks like a horse and smells like a horse it's probably a horse and not an object of extreme terror! Therefore jumping training needs to be slow and progressive. It is far better to progress too slowly than too fast.

This is an excerpt from the C manual: "Your horse needs to have successfully jumped at least five different versions of a fence before he starts to generalise. Because your horse has almost perfect spatial memory, after jumping one oxer he doesn't necessarily recognise other oxers as jumps and not things to be avoided. He needs memories of at least five different oxers before he begins to understand what is required of him when he approaches an oxer he hasn't seen before."

When learning to jump it is a very good idea to approach in trot. The horse's trot stride is considerably shorter than his canter stride (and slower) so there is more chance that he will arrive at the take off with a manageable distance, having had more time to assess the fence. The horse should not change his rhythm on the approach or landing side of the fence and should travel in a straight line towards it. If the horse drifts to the left, he should be corrected with an opening right rein and if he drifts right he should be corrected with an opening left rein."

With riders of D\* and C level it is a good idea to keep the jumps low enough so that the horse can walk over them until the training is absolutely reliable. The pressure used in pressure-release training does not necessarily have to be physical, it can also be mental pressure. So, if the horse tries to avoid the fence by stopping or running out and the rider circles him, the horse loses sight of the fence (and because he does not exhibit object permanence) and has therefore learned to make the fence go away. If a horse refuses a jump five times before jumping it, he had learned a lot more about refusing than he has about jumping.

### **Training Scale**

The training scale is very useful when jumping. These are the questions you can ask yourself.

- 1) Does he do it?
- 2) Does he do it immediately from light aids?
- 3) Can you control his tempo while he does it?
- 4) Can you control his line while he does it and does he stay reasonably straight through his body?
- 5) Does he maintain an even contact on the reins while he does it?
- 6) Will he do it everywhere?

If the horse is getting very anxious it is most likely that he cannot be controlled with light aids. If the horse is having refusals or run outs then the rider is probably not able to control either the tempo or the line. Ensure that the horse's responses are clear before attempting to progress any further.

Riders at D\* and C level can use a crest release when jumping and should not approach the fence in two-point position as they are unlikely to have the strength or balance for this.

Activity:

Riders at this level should be interfering with their horse on take off as little as possible. However, if they can predict when the horse is going to take off it is easier for them to maintain a balanced position.

Riders can approach a single pole in trot. Ask them to say “one” on the take off stride. Once they can do that count “one, two” on the two strides before take off. Keep going until they can count the last five strides before jumping. Once riders have mastered that exercise at trot, they can do it at canter too.

## Lesson Plans

### Lesson One: Ground work - Two steps back from pressure

#### Topic and goals:

Our goal today is to achieve two steps backward from a single, light aid.

#### Equipment:

Horses should be wearing bridles. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Riders should be dressed safely for ground work, as described in the manuals including gloves and a helmet. It may be useful with younger or more inexperienced riders to give each a marker cone to stand next to so that it is easy to maintain safe distances between horses during the lesson.

#### Introduction:

The first response we focus on in ground work is stop. This is the most important of all the ground work responses, because it helps us determine how the horse will respond to the slowing and stopping aids under saddle. The stop response has three parts: step back, stop and slow. Improving the stop response will help with many of the problems commonly encountered when handling the horse on the ground such as tension, quickening and walking on the handler.

#### Main activity:

We will start with a single step backward. Start in position one. Without moving your legs, apply backward pressure on the reins. How much pressure did you have to use before your horse took a step backward? It's alright if it took quite a bit of pressure to achieve a response, it just means that we have some work to do. It's very important for your horse's mental wellbeing if he can be controlled with light aids. Ideally, we want to be able to move him backward with about as much weight in our hands as a chocolate bar.

If your horse is very heavy, make sure you start your pressure very lightly. Then, in the time it takes you to count to three, gradually increase the pressure. As soon as he takes one small step backward with one front leg, release the pressure totally and scratch or stroke him. It is very important to

remember that the pressures you use should never be painful – they should just be slightly annoying for the horse.

Using pressure-release training is a little bit like going shopping for the correct behaviour. If you went to the shop to buy milk because you wanted to make a cup of tea you wouldn't buy vinegar instead because that was the first thing you saw. You would keep walking down the aisles until you found the milk. It's a bit the same when training your horse. If at first your horse offers a behaviour that you don't want, don't release the pressure. Keep increasing your pressure until he steps back. In training, you want to be totally clear so that each pressure that you use produces only one answer from the horse. If your horse is standing still and you apply pressure on the lead rein (or bridle) towards the middle of his body, he should always step back.

In the beginning you will probably only get one small step backward. That's fine! Keep practising – and be very careful to release your pressure the instant your horse steps back, even a little bit. Make sure you reward him often with scratches.

Once you can get one step backward from light pressure we're going to see if we can get two steps back from light pressure. You can think of this as 'buy one get one free'. Apply pressure as before but do not release at the first backward step, keep increasing your pressure gradually until the horse starts to move his second front leg backward and then release the pressure and reward him. Practise this until you can easily get two backward steps of the front legs from a light pressure.

## **Lesson Two: Ground work – training a voice aid for step back**

### Topic and goals:

Our aim today is to teach the riders the steps required to train the horse to take a step backward from a voice aid. It is important that they gain an understanding of the systematic process required to train voice aids.

This lesson should follow lesson one (above).

### Equipment:

Horses should be wearing bridles. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Riders should be dressed safely for ground work, as described in the manuals including gloves and a helmet. It may be useful with younger or more inexperienced riders to give each a marker cone to stand next to so that it is easy to maintain safe distances between horses during the lesson.

### Introduction:

It's important for riders to realise that their horse learns voice cues because they sound unique and different to the other sounds around him. He doesn't learn language like human toddlers do. Therefore when using voice aids in training, it is really important to deliver the word in exactly the same way each time.

### Main activity:

Prepare to ask your horse for a step back in the way that you have been practising, however before you give the aid for step back say the word, "back" clearly, just before you use the pressure-release cue that you have already trained. So, the sequence would be:

Say "back"

Apply pressure to reins

Horse steps back

You release pressure



If you repeat this several times you will notice that your horse starts to step back as soon as he hears the word “back”. It is also quite possible that his step back will become lighter. Well done! You have used classical conditioning to train your horse.

It is important to understand that classically conditioned cues (such as “back”) won’t be effective in very stressful situations and won’t continue to work if you don’t keep associating them with the learned response. In this way, they are a little like rechargeable batteries – you need to keep recharging them for them to work well. Also, classically conditioned cues are only as good as the learned responses that they are associated with. So, if your horse’s step back isn’t very good then using the word “back” won’t fix it.

### **Lesson Three: Ground work – Park**

#### Topic and goals:

The aims of this lesson are as follows – students should understand the importance of controlling the horse on the ground with light aids and not allowing him to follow their legs when they move. The students should also gain an understanding of how to train and maintain the park response on the ground and have an understanding of its applications in management tasks (vet and farrier).

#### Equipment:

Horses should be wearing bridles. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Riders should be dressed safely for ground work as described in the manuals including gloves and a helmet. It may be useful with younger or more inexperienced riders to give each a marker cone to stand next to so that it is easy to maintain safe distances between horses during the lesson.

#### Introduction:

Now that the students have good control of their horses on the ground, they are going to train them to stand still – we call this park. Park is a very useful thing to train because it teaches the horse to always wait for the handler's signal before moving. It also shows us exactly what the horse knows about the stop and go forward responses. Teaching horses to park not only makes them easier to groom, mount, rug, shoe and clip, it also makes them calmer and safer to be around.

#### Main activity:

To train your horse to park you should start in position one. Your coach is going to draw a circle on the ground of about 1m in diameter. If the ground is hard you could use flour to mark the circle. Halt the horse so that his front legs are in the circle and then take a backward step away from him.

- If he steps forward out of the circle correct him by saying "back." Then, step him back to where he started and reward him for standing still with a scratch on the neck.
- If he steps backward out of the circle correct him by bringing him forward and then, when he stands still, reward with a scratch on the neck.
- If he steps sideways out of the circle step him backward then bring him forward back into the circle.

Don't forget to reward him with a scratch on the neck when he stands still. Continue to do this until you can step to the end of the reins without him following you. Reward him with scratches as often as possible when he stands still as it will help to learn what it is that you want him to do more quickly.

Next, move to the end of the reins and then take a step or two to the left. If he walks out of the imaginary circle correct him as you did before. If he finds it hard to learn this stage, try taking just one small step to begin with. Once you have mastered steps to the left, try taking steps to the right. Keep practising until you can walk a little semi-circle at the end of the reins, almost as if your horse was lunging you!

Once this is easy, you're going to move alongside your horse on his right side and walk forward, away from him. When you're good at this try it on your horse's left side. This side will be harder because it is the side your horse is usually led from and he will expect to follow your legs. But we don't want him to follow your legs because in horse training the rules must always stay the same. If you keep practising, you will soon be able to run a little way past your horse on both sides while he stands as still as a statue!

When your horse can park safely on the arena you can test your training in other places too. Start off practising park in easy places – like your horse's stable or his yard and then gradually work your way up to more challenging environments.

## **Lesson Four: Riding a downward transition in two steps**

### Topic and goals:

Horses are creatures of habit and they are most content if their habits remain similar all the time. Training a horse to do a downward transition from walk to halt in two steps of his front legs (a single stride) is a very good way of making sure his habits are stable. It will also help riders understand the three phases of each pressure-release aid.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed. You may find it useful to conduct this lesson on a 20m circle (the circle at E would be ideal). You should have enough marker cones to enable this.

### Introduction:

If you count the number of front leg steps it takes to complete a good downwards transition from walk to halt you will notice that ideally it occurs in two. Any less steps and the transition looks abrupt; many more steps and the horse will quite often get heavy and lengthen his neck. Riders should understand the three phases of the pressure-release aids: the light aid, which becomes the heavier aid (if required) and the release of the aid. Of course, if the light aid elicits the correct behaviour the rider would not use the heavier aid but would release the aid immediately.

### Main activity:

Ask riders to walk their horses on the circle and count the front legs of the horse out loud (one, two, one, two). Then ask them to ride a downward transition to halt and to count how many steps of the front legs it took the horse to stop. If it takes more than two steps the riders may have to increase the pressure of their heavier aid for a few repetitions. It is very important though that the aid still starts off lightly. Don't forget to remind riders to reward their horse often with a scratch on the neck. Riders can count the three phases of the aid as their horse does the downward transition. First step (one), second step (two) stop (three). Or, if you'd prefer first step (light aid), second step (stronger aid), third step (release).

## **Lesson five: The line game (Staying straight)**

### Topic and goals:

A fundamental component of the turn response is that the horse turns when the turn aid is applied. Just as importantly, the horse should not turn unless the turn aid is applied. The same rule applies to all the foundation responses.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed.

### Introduction:

Straightness is an integral component of correct training. However, it is important that the horse maintains this straightness on his own. This is a component of self-carriage.

### Main activity:

This can be done one rider at a time. Ask the riders to pick a point in the riding area and ride their horse directly towards it without holding him on your line with their reins. Ask them to make a little loop in the reins so they're not tempted to cheat! If the horse's legs drift away from their chosen line the rider should immediately use the turn aid (an opening rein) to correct the horse. You'll almost certainly find that most horses drift one way more than the other. If you can catch the drift fairly quickly the horse will soon learn to stay straight on his own. This exercise is most often done at trot but can be done at walk and canter too.

## **Lesson six: Riding downward transitions on straight lines**

### Topic and goals:

The aim of this lesson is to ride downward transitions on straight lines and for riders to understand how to improve their horse's straightness during the downward transition.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed.

You will need eight marker cones in pairs at the beginning/end of each quarter line.

### Introduction:

Downward transitions should be practised all over the arena, not just against the fence. If the horse drifts or swerves during the transition it is most probably because one pair of his legs is not stopping or slowing as well as the other. It helps to train him to remain straight if the riders uses a little bit more rein on the side of the front leg that doesn't stop as well. For example, if the horse drifts left in the downward transition, the rider can try riding the downward transition with a little bit more pressure in the left rein. They are asking all of the horse's legs to stop but asking the left front leg to stop a little bit more than the others.

It's important that riders do not try and keep the horse straight with their legs. This would be applying two aids at once and is very confusing for the horse. Of course, you will ensure that the riders are sitting in a straight and balanced position so that the horse has the best chance of achieving straightness.

### Main activity:

The ride walks (and then trots) around the arena on the quarter lines in open order. On your signal they ride a downward transition to halt (or walk). It can help if they look up at something at the end of the quarter line.

## **Lesson seven: Give and retake the reins to check for self-carriage**

### Topic and goals:

Self-carriage is an extremely important part of all training at all levels. At D\* and C level it means that the horse neither speeds up, slows down or swerves off the rider's line. This lesson is designed to emphasise the importance of self-carriage and show the riders a way to test for it.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed.

You will need enough marker cones to mark a 20m circle and also (on that circle) a short 'give and retake the reins' zone of about 4m long.

### Introduction:

In a rock band the drummer is responsible for telling the other members of the band what tempo to play and sing. The rider is like the drummer in the band because they are in charge of the tempo and line. At D\* and C level it's important that the horse maintains the same speed and line without being constantly asked to go forward or slow down. This is self-carriage. It's an extremely important part of riding because any quickening could be the flight response. Slowing can also be a problem as it might lead to baulking and napping if it isn't corrected. Swerving off the rider's line can lead to shying and napping.

### Main activity:

As the riders trot around on the circle they are going to give and retake the reins in the zone that you have marked for this. You can use a metronome to check if they have changed tempo. If the horse speeds up, ask the rider to slow and then try again immediately afterwards. If the horse slows the rider can correct him by using a leg aid.

Competent, experienced riders can attempt this exercise at the canter and it is very useful, particularly before they begin jumping. If the horse cannot canter a circle without quickening when the reins are released, it is unlikely not to quicken when a crest release is given in the air.

As an extension of this exercise you can try it in various places in the arena - as rider cross the centre line during a serpentine, on the long side and on the quarter lines.

## Lesson eight: Rhythm - the metronome

### Topic and goals:

Rhythm is a fundamental component of the equitation science training scale. In this lesson the students will learn some techniques for training their horses to maintain a consistent rhythm.

Note: In horse training *tempo* is the speed of the footfalls while *rhythm* is the regularity.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed.

You will also need a metronome. There are many free apps that can be downloaded for smart phones or you can use an electronic one (available to purchase from most music stores).

### Introduction:

Maintaining rhythm is a key component to self-carriage and a metronome is a great tool to use to develop it. The metronome is a device that produces a beep sound at a tempo that you determine. You can buy them in music stores or download one for your smart phone. When you ride with the metronome you adjust the horse's tempo until the beep and one of your horse's front legs are in time. It's quite okay to look down at your horse's shoulder in the beginning – you'll quickly get a feel for where his legs are with practice. The metronome helps you decide if your horse is slowing or quickening. It also helps test how well your horse can stay in a slower or faster tempo.

The tempo of your horse's legs will increase as he changes up the gaits. If he is over 14.2hh he will usually walk at about 55 beats per minute (bpm) which means that one of his front legs will touch the ground 55 times every minute. He will usually trot at about 75 bpm and canter in the arena at about 95 bpm. He will show jump at a slightly faster tempo – up to around 110 bpm. Ponies are often about 5 bpm faster in all gaits and large horses can be a little bit slower, particularly in the walk.



### Main activity:

Set the metronome to 55 bpm and ask the riders to walk their horses at that speed. It might seem hard at first, but they'll improve with practice. Once they have mastered 55 bpm try 60 bpm and then 50 bpm. You can practise swapping between the three different tempos. It will take concentration but it's a very useful exercise.

Once the riders have good control of the tempo at the walk, set your metronome to 75 bpm and try it at trot. When they can maintain 75 bpm easily, try 70 bpm. One of the best exercises for developing calmness and self-carriage is slow trot. It's important that the horse learns to maintain the tempo on his own. Don't allow the riders to keep a constant pressure on their reins – they can use them to slow the horse every time he quickens and then release the pressure when he slows. You might find that, at first, that they have to slow every couple of strides but pretty soon the horse will learn to keep the required tempo. Once the riders can easily do 70 bpm try going slower. (You'll know the trot you're asking for is too slow if the horse loses his clear two beat rhythm.) Try to maintain slow trot for at least a 20m circle, checking self-carriage regularly by giving and retaking the reins.

## Lesson nine: Turns

### Topic and goals:

At D\* and C level the foundation responses are stop, go forward and turn the shoulders. The aim of this lesson is to deepen the students' understanding of the turn response – how to ride a turn correctly and what to do to improve the turn.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed.

You will also need enough marker cones to mark small loops on each long side.

### Introduction:

In a correct turn to the right the horse's right (off side) front leg moves to the right, away from his body (abducts) during the swing phase of the step – that is, when the leg is travelling through the air. There are unmounted exercises in the certificate manuals for riders to do to explain this movement further.

The correct aid for a turn to the right is a very slightly opening right rein. If the rein is used in a backward direction the horse will have a tendency to bend his neck too much. During the turn the outside rein should stay quietly against the outside of the horse's neck, unless the horse bends his neck too much, in which case, it should be applied just enough to prevent the bend. If the turn aid fails, the rein should be opened further away from the horse's neck until at least one step of turn is achieved. It is important that riders release the turning aid when the horse turns. For young and inexperienced horses, a turn of 90 degrees may require two turn aids.

Because horses are very adept at learning by classical conditioning (and also because the rider needs to be able to see where they are going) it is important that before the turning aid is applied, the rider looks in the direction of the turn. Depending on the size of the turn the rider's upper body may pivot around the waist slightly. There is no need for the rider to use a leg aid during turn, indeed it can cause confusion with leg yield and detract the go forward response.

Main activity:

Using your marker cones, mark two or three shallow loops (no more than 2m) up each long side. At walk and then trot riders will ride the shallow loops concentrating on applying their turn aid correctly. Riders should ask themselves if their horse slows down or speeds up during each turn or if their horse turns one way more easily than the other. Remember, ideally the pressure used should be no more than about a two out of 10. If the horse is speeding up during the turn the rider should slow the horse before applying the turn aid. If the horse is heavy in the turn the rider can increase the second phase of the aid slightly or open the rein slightly wider to achieve turn, paying particular attention to the release of the aid as soon as the horse begins to turn.

Note: It is useful to discourage your students from 'suppling' exercises that involve a lot of static neck bending while mounted. When the turn aid is applied the aim is for the horse to move his legs. Bending the neck by applying a turn aid that doesn't also achieve a turning movement of the legs is a training inconsistency and these should be avoided.

## Lesson 10: Poles

### Topic and goals:

In this lesson we will introduce the horse to trotting over single poles on the ground. The aim will be for the students to understand the importance of self-carriage and rhythm over poles as a foundation for jumping.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed. You will need some electrical tape (to mark the centre of the poles) and enough marker cones for a safe trot warm up. You will also need a metronome.

### Introduction:

It is important to remember that the pole should only ever cause the horse to lift his legs a little higher. They should never make him speed up, slow down or lose line. Before you begin any jumping training, your students should be able to walk, trot and canter over a single pole without any change in the rhythm or the line. Mark the centre of each pole with a wrap of electrical tape, making sure that the ends are secured so that they don't frighten the horse.

### Main activity:

Place single poles around the arena. Where you place the poles depends on the proficiency of your students – if they are familiar with school figure you could place poles on the centre line where the horse will cross it during a three loop serpentine.

Set the metronome to 55 bpm and make sure that the students' horses do not change their rhythm in the walk as they do the pole. Students should aim for the tape at the centre of the pole.

If a horse rushes the student should ride a downward transition to halt straight after the pole and, when the horse stands quietly, reward and walk on. The students should be very careful not to allow their horses to swerve around the pole. This is why the exercise begins in walk.

When the students are proficient at walk, the exercise can be done at trot. For this you should set your metronome to 75 bpm. Again, if the horse rushes the student should ride a downward transition as they did before.

Eventually you may be able to do the exercise in canter. Your metronome will be set to 95 bpm.

## Lesson 11: Changing into and out of two-point position

### Topic and goals:

The aim of this lesson is to get the students comfortable in both two-point and three-point position, and changing between the two.

### Equipment:

Horses should be tacked up safely according to Pony Club guidelines. Please make sure that the noseband of the bridle (if they have one) is done up so that you can insert two fingers between it and the nasal bone (on the front of the horse's face). Similarly, riders should be correctly and safely dressed. You will need enough marker cones to form a circle at E, and a metronome.

### Introduction:

Before you begin any jumping you need to be stable and secure in the saddle. You will need to shorten your stirrups at least two holes from your flatwork length as this will close the angles of your ankles, knees and hips and make it easier to balance. It is a good idea to use a neck strap while jumping as this will help stabilise your upper body if required. Even very experienced riders often use neck straps, particularly when riding young horses.

In between fences, particularly during cross country riding, you will probably adopt two-point position. On the approach to fences you will adopt three-point position. As your horse takes off in the air over the fence you will fold at the hip joint, bringing your chest a little closer to his neck. You will keep your lower leg stable by maintaining weight in your heel. Your toes can turn out a little bit when your stirrups are shortened for jumping. When your horse lands you return to the saddle, being careful not to bang on his back in the process.

When you are first learning to jump, it is fine to give a crest release. This is when you allow the horse freedom with his head and neck by taking your hands about one third of the way up his neck – towards his crest. As you gain confidence and experience you will develop more of an automatic release. This occurs when your hands follow the horse's mouth forward and down, maintaining a light, even contact with his mouth, even when he is in the air.

In two-point position the rider has two points of contact with the horse – their legs. In three-point position the rider has three – their legs and seat. Two-point position allows the horse's back to move

freely and is less tiring for both horse and rider. Three-point position is used on the approach to the fence or when the rider needs to use a firmer leg aid.

Main activity:

Use a student to demonstrate a correct two-point position. On the circle at the walk the students can practice changing between two-point and three-point position. Once they are proficient at this they can do the same thing at trot. It is useful to use the metronome to ensure that the horses do not change rhythm when the riders change position.

As an extension, you could do school figures changing the riders between two and three point position. This exercise could also be done at canter and, if the riders are very competent, while changing from single file to open order.

## **Lesson 12: Horse vision (unmounted)**

### Topic and goals:

The aim of this lesson is to deepen the student's understanding of the horse's vision and how that might affect him while being ridden.

Equipment: You are going to need two pairs of cheap plastic safety glasses, some masking tape and some green cellophane (optional). Tape the cellophane over the lens of the glasses so that there is just a narrow (1.5cm) green gap for the wearer to look out of. You will also need a flat, safe area, some obstacles (to form an obstacle course) and perhaps even some prizes.

### Introduction:

The horse's vision is very different to ours. For a start they are dichromats, which means that they only have two different kinds of light sensitive cells in their eyes, unlike humans who have three. Equine colour vision is quite similar to that of a dog – which is almost as though an olive green filter has been placed over the eye. They are not colour blind because they don't see in black and white, but their colour perception is different to ours.

Horses can also see quite a long way around their bodies with a thin blind spot directly in front and directly behind them. You can find images of the blind spot in the certificate manuals. However, while the horse's field of vision is much wider than ours his peripheral vision is not particularly acute – which is why things that move rapidly beside him are often frightening.

The horse's pupils are oblique in shape and positioned horizontally within the eye which means that he does not have a large vertical field of vision. This limited perspective is radically altered by the way he holds his head. This exercise is designed to help students understand how little their horse can see if he approaches a fence or uneven terrain with his head too low.

### Main activity:

Build an obstacle course that is safe and have the students race around it against the clock with their chins tucked into their chests. While they are wearing the horse vision safety glasses that you have made it will be quite difficult for them to see where they are going – which is why you must ensure the obstacles you choose are safe! They should also race around the course with their heads in a comfortable position to see how it alters their vision.

