

## SE Region Training day – March '12

### Understanding our riders – Handout on Physical Disabilities

Why do we need to **gather information** about our riders?

We need to ask ourselves the following questions:

- What can my rider do now?
- What can I expect them to be able to achieve?
- How can I help them achieve this?
- Is it safe for my rider to do this?

1. Is their disability due to problems in their joints and / or muscles or is it neurological in origin?

2. Is it an acquired disability ( ie trauma or illness) or since birth?

3. Is their disability static or progressive?

*If it is progressive, the rider may vary in their ability from week to week and their riding will need regular review. These riders are more likely to suffer from fatigue, e.g. muscular dystrophy or multiple sclerosis. If it is static they will normally present a fairly consistent ability but as children grow older, the problems often become more apparent or more difficult to cope with. E.g. cerebral palsy.*

4. If the rider has problems with mobility and movement is it a primary physical problem or is it secondary to more 'global' or learning difficulties. The approach to management for riding will be different.

## What is muscle tone?

Muscle tone is what a muscle feels like.

Tone	What it means	Strategies for improvement
Normal	<p>Normal tone is the tension required to support the appropriate body part against gravity.</p> <p>It allows movement to feel the same whichever way you move the joint/ the joint is moved.</p>	
Hypertonia	<p>Hypertonia is when a muscle feels stiff or tense. Increased muscle tone causes abnormal movement in some or all limbs, head and trunk. It can cause muscle fibre shortening and or loss of joint movement. This may be exacerbated by fear, too much effort, sudden movement, pain or discomfort, sudden noise and too much excitement.</p>	<p>Stiff riders need time to relax and start off slowly to warm up, preferably without stirrups. Large school movements (no sharp turns or sudden transitions) and a 'smooth' striding, rhythmical walk from the horse.</p>
Hypotonia	<p>Hypotonia is when a muscle feels floppy. The key to treatment is to achieve an acceptable level of stimulation to which the rider can respond.</p> <p>Often associated with joint instability due to ligament laxity. Care must be taken to support the joints in correct alignment and not allow someone to 'fix' in abnormal postures (where they may feel more secure)</p>	<p>The riders need to have more active demands made of them. Using a more active pony with early introduction in changes of pace and transitions helps to raise their tone. If the rider has limited head or trunk control, advice from the physiotherapist should be sought. Riding can be tiring for people with hypotonia and they will fatigue easily therefore they should only ride for as long as they are able to tolerate the activity.</p>
Dystonia	<p>Dystonia is a mixture of high and low tone, which can vary according to many circumstances. The body often adopts extremes of movement, either totally extended or flexed with lots of rotation or twisting. These riders have unpredictable and destabilising movements, which need to be handled correctly. Incorrect handling can make the situation worse.</p>	<p>Helpers need to constantly observe changes in posture and movement. Maintenance of an even and rhythmical pace is essential to enable these riders to keep control of their movements.</p>

Uncontrolled movement	Uncontrolled movement is often due to instability around the trunk, head, shoulder and pelvic girdles.	These riders need to learn to stabilise one or more parts of the body to allow more control over the movement of another part. They need time to focus their attention on achieving one task at a time.
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**Muscle weakness /strength** is not necessarily related to changes in muscle tone. Many hypertonic muscles are weak and fatigue easily. Hypotonic muscles may have strength but the riders need a lot of effort to use those muscles effectively

**Other problems you may come across**

Problem	What it means	Possible strategies
Sensation	Riders with spinal cord injuries e.g. paraplegia or spina bifida may not be able to feel pain or discomfort in some areas of their body and are therefore more at risk of developing sores.	These riders may need to ride on a sheepskin over a saddle or a gel saddle saver. It is important to ensure that stirrup leathers lie flat and don't pinch the skin.  You also need to pay attention to their clothing.
Visual impairment	Riders with limited, altered or no vision. Although some riders may be able to see, they may not be able to use the visual information.	Always address the rider by name and encourage visual attention before giving commands. Ensure you give sufficient verbal information about what is going to happen. Encourage them to look around the school by using a marker or object
Hearing impairment	Riders with limited, altered or no hearing. Although some riders may be able to hear, they may not be able to process the information or focus their listening.	Support very clear, bite-sized instructions with non-verbal cues, e.g. gestures or signs. Make sure the rider is looking at you to pick up the 'support' for your communication.
Perceptual problems	Difficulties with awareness of body position in space  Spatial awareness problems causing difficulties with riding shapes, eg circles, shallow loops, serpentines, changes of direction etc	Use mirrors for reinforcing their posture and awareness of leg position  Use cones to teach them shapes and sizes or indicate specific markers to help them understand where they are to ride to.

<p>Dyspraxia</p>	<p>Difficulties with initiation / planning movement. Some common features include:</p> <ul style="list-style-type: none"> <li>• Inability / difficulty with Initiation of movement</li> <li>• Poor attention span and easily distracted.</li> <li>• Limited short term memory- takes longer to establish new skills</li> <li>• Difficulty understanding instructions given- too much information causes 'overload'.</li> <li>• Postural and spatial awareness problems.</li> <li>• Visual perceptual problems</li> <li>• Difficulties with fine motor movement : (eye-hand /eye foot)</li> <li>• Co-ordination problems- right &amp; left sides do not work together (difficulty with bilateral work)</li> <li>• Difficulties with sequencing movements – motor planning.</li> <li>• Sensative to touch and textures (eg own clothing, horse's coat, mane etc)</li> <li>• Poor sensory feedback – often cannot stay still for long.</li> <li>• Problems with communication and ability to express themselves</li> <li>• Poor visual attention.</li> <li>• Low self esteem</li> <li>• Possible altered behaviour</li> </ul>	<p>Support very clear, bite-sized instructions with non-verbal cues, e.g. gestures or signs.</p> <p>Be repetitive and consistent in the words that you use.</p> <p>Avoid negatives (don't do that).</p> <p>Get eye contact before giving information.</p> <p>Teach new tasks in very small stages – set small achievable goals.</p> <p>Demand active participation wherever possible i.e. don't do something for a rider that they could do themselves if given time.</p> <p>Encourage them to LOOK at what they are doing</p> <p>Give them opportunities to use a mirror to correct their position, or to copy you.</p> <p>Riding in straight lines away from the outside track-- ability to stay straight./ centralise.....etc</p> <p>Gradually increase number of tasks in sequence – build on the complexity of the tasks.</p> <p>New tasks need to be practiced over and over in order for the rider to learn new skills. Keep activities short and stimulating.</p> <p>Keep the walk ACTIVE – it helps give more sensory feedback</p> <p>Give positive body language and reward achievement immediately – encourage them to recognise what they did well.</p>
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**Any of the above difficulties are often present with riders with cerebral palsy and with some learning difficulties.**

## **Balance**

Balance is about the ability to maintain your position with your centre of gravity 'within your base'.

Balance is about movement and flexibility, not just position.

### **Balance is dynamic**

Riders need to be able to move within a stable base, and be able to lose their position and regain it without falling.

A balanced seat requires a rider's weight to be equally distributed, with the trunk (body) being correctly stacked above and the legs resting under the 'base', with the upper limbs being free (not supporting).

In order to develop a balanced posture (or movement) the rider needs to have muscle control, and co-ordination, and they need to be very aware of their weight distribution. They need to develop a sense of 'feel'.

### **What causes balance problems?.....**

Any alterations in muscle tone, or stiffness in any joints will affect a rider's ability to achieve postural balance, whether this is static or moving. Alterations in tone can affect the whole body or part of the body. If there is damage to the cerebellum in the brain they will have significant problems with balance.

### **Riding strategies**

Riders need to be able to develop forward and backward balance responses and lateral (side to side) balance and be able to control rotation about a central axis. All this can be done at walk, using changes of direction, circles, and transitions, etc. It is an essential basic skill on which further riding skills can be developed.