

Hippotherapy

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Occupational
Therapy at the
Barn



Evidence Through
Measurement:
Outcome Measures
for Hippotherapy
Research



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Effective therapy utilizes meaningful activities to intrinsically motivate the client. Occupational therapists often use the term "just right challenge" to describe a motivating activity that challenges the client and fulfills their objectives. Tasks are chosen that requires clients to use the specific motor skills in need of development, to integrate sensory systems and to optimize cognitive systems for learning. For many clients, the barn with horses can be that perfect, meaningful place.

Being on the back of horse provides the client with a dynamic platform in a rich sensory environment. This dynamic surface puts a person into a stable posture with hips and knees flexed, legs abducted with the trunk and upper body able to move in space

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in response to input from the horse's movement. The three dimensions of the horse's walking gait are very similar to humans and form the basis for this type of treatment approach for equine assisted therapy and hippotherapy. In addition to the unique value of the movement, there are some significant factors in the barn setting that can enhance the benefits of natural surroundings. Comparing the barn to a clinic, it is easy to see that the barn offers more natural light and sounds, fresh air, interesting scenery, unusual smells, and the opportunity for meaningful activities in their context, while the person is on a rhythmic, potentially variable surface

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with a wide variety of movement options. During occupational therapy at the barn, the equine assisted therapy and hippotherapy component that utilizes the movement of the horse can provide a sensorimotor foundation that helps the client achieve that "just right" challenge. As in all forms of OT treatment, it is important to set specific client-centered goals and design activities that will encourage the client to transfer their new skills to their own environment. The goal is never to perform better at the barn, but to utilize their improved abilities in their home, work or school setting.

To examine some OT activities at the barn, a typical session will be described in the basic order of activities that the client would perform them. There is not a specific diagnosis in this example. It is based on a client performing sensorimotor activities with a moderate level of comprehension.

On arrival, the client identifies the correct size helmet by reading a chart or matching the letter on the helmet to the letter they remember - like S = small and checks their name off on the attendance sheet. These simple organizational skills provide some cognitive preparation and the amount of assistance can be varied. Next, they come to the therapy area near the arena while the therapist begins to assess the sensory state of the client. If needed a mini-trampoline or therapy ball is used to increase proprioception and activate balance reactions. This can help with grounding a person who might be overly excited. Deep pressure and resistive activities such as carrying out some equipment into the arena or dragging out some grounds poles can be a great preparatory activity.

Pre-mounted, warm up exercises:

Balance and coordination can be addressed when the client sits on the stretching bench and performs AROM for BUE/BLE. Using a mirror allows them to see themselves and they can be guided in visual perceptual activities to correctly identify body parts and follow verbal directions. The game "Simon says" or the Macarena works great, so they get visual stimuli to follow themselves in the mirror and improved kinesthesia during ROM.

Brain Gym activity like "Figures 8's" will help with bilateral movements - the client touches their right hand to their left knee as they lift their bent leg into the air, then left hand to right knee and continue. The goal is to make a smooth figure 8 shape which increases their bilateral motor coordination. Functional work follows to activate both sides of the body.

Ascending and descending two mounting blocks both frontward and backwards follow with therapists implementing NDT techniques to facilitate the movements.

Mounting: A ramp with two different heights gives therapists the choice to select the one that will allow the client to do the most work to get on the horse.

For example, a small child might work on walking up to the lower level of the ramp and use a two step block to get on the horse to expand on the preparatory BMC activity we did on the ground. For someone else, to increase their weight shifting during standing and transitional movements using a step aerobic bench (about 5" tall) on the ramp will encourage them to do a single step up,



then weight shift onto their left leg to stabilize while lifting the right. It is easy to facilitate leg extension on the left and guide the right leg over the back of the horse. Mounting and dismounting have many techniques and the method should be chosen that facilitates the maximum motor learning for your client.

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Cognitive: During OT sessions, voice commands like Stop/Go or Yes/No are used for the client to verbalize to the horse in a functional level of communication. Using Yes for "Yes, let's Go" and No for "No more walking", can be easily incorporated into mounted activities. These words are on inexpensive plastic paddles (from any Dollar store) that attach to the pad or surcingle with stretchy key chains. This provides 2 words that can fit into all types of conversation. Work can be expanded to include colors, letters, making choices, solving puzzles, etc. The simple use of YES and NO can be an easy way to increase a person's communication interaction during OT on a horse. Some clients have

augmentative communication devices that are suitable for use during a hippotherapy session. For example, a dynavox that is adapted to being in a fanny pack.

Mounted work: Initially implementing an equine assisted therapy or hippotherapy technique by doing a couple of laps around the arena will allow the client to adapt their

posture using primarily the input of the horse's movement. Part of the treatment strategy is based on effective sensory processing and the vestibular and proprioceptive input of being on the back of a horse and can profoundly affect the client. A long swinging walk or quick stops and starts have significant effects on overall tone, especially in the trunk. Monitoring the client's posture

and ability to focus is very important and determines which activities are used to optimize them for the session. This is a good time to implement some of the Pilates core strength breathing techniques we learned at the 2005 conference.

Dynamic upper body exercise: The moving horse provides the surface for AROM using rain sticks, pull tubes, theraband or weighted bars encourage the person to try different arm positions and have some resistance for the client to work against. Adding wrist weights to the rain sticks will increase the amount of effort the client uses when they shake them. The pulling or shaking can be done in a pattern to their rhythmic coordination and following

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verbal directions. For example, "Shake two times over your head and one time over your knee" or "twist two times right and three times left" for trunk rotation.



Karen McPhail and client working on functional activity after therapy treatment

Lower body

exercise: A good beginning is with weighted rings on toes to increase body awareness of feet and foot position. Ankle rotations or knee lifts are more challenging when trying to keep the rings on their feet. Sometimes it is necessary to do one side at a time until the client can easily dissociate one side from the other. Flipping the ring into a hula hoop on the ground helps with knee extension. Stretchy wrist weights placed over the toes provides increased input to a client who has strong plantar flexion and possibly decreased body awareness. Using stirrups in a "two point" is great for activating the entire leg, creating pelvic tilt and encouraging use of lower trunk stabilizers. The therapist can provide approximation to the pelvis to increase the weight bearing. It is helpful to teach some simple handling techniques to side walkers so they can assist during the treatment session.

Motor Planning: It is often beneficial to do some motor planning task such as Around the World. If the client has the skill level, this can be incorporated into the upper body ROM by having them turn sideways and do some arms lifts with the rain sticks, then turn and face the horse's tail, etc. When riding backwards, the movement of the horse encourages use of the trunk stabilizers

and increases potential for weight bearing on the hands and creates some co-contraction in the shoulder girdle. To encourage more active weight bearing, it often helps if the therapist provides a quick stretch to the triceps and

then add some resistance to extension before placing their hands down on the back of the horse. Once weight bearing has matured to active weight shifting, it is time to work on functional reach. Simply brushing the back of the horse when sitting backwards or doing activities that encourage reaching and grasping which can be graded.

Incorporating hippotherapy, the horse's movement is planned to help the client achieve their best functional posture and may help facilitate an optimal cognitive state to perform additional activities. Assuming our client has both motor and

identifies the object. Verbal descriptions are very helpful, comparing the differences. An example, the client might say, "This must be the star, not the circle, because it has points."

Auditory Processing: Use verbal directions to perform some motor plans like "turn and face the horse's tail". Also, using auditory books that play an animal sound or say a letter and have them match the appropriate sound to an object from a basket of choices or objects placed around the arena to increase head control through scanning. This type of activity can easily be graded by increasing the number of directions or reducing the number of object choices. Having the client press a button to hear a sound or choose between objects utilizes their fine motor skills also.

Oral Motor and Tactile: Oral motor stimulators like whistles, harmonicas and chewy tubes can be included in an OT session. Using a stretchy clip key chain helps to attach them to the tack. It is often beneficial to use kinesiotape on the upper and lower lips to increase

Positioning, such as facing backwards in prone extension, can also facilitate oral control and improve lip closure.

sensory goals, some sample activities are listed below:

Stereognosis and Fine Motor: To increase the client's perceptual and tactile abilities, enhance manipulative skills and improve dexterity, use a small cloth bag and put various shapes, plastic letters, or animals inside. Depending on the level of the client, they can see the object beforehand or not. As the horse walks, the client reaches in the bag and

input and decrease drooling. Positioning, such as facing backwards in prone extension, can also facilitate oral control and improve lip closure.

Functional Reach: To improve and measure functional reach, you can put colored clothes pins on the horse's mane at measured intervals and have the client reach for a specific color. This is an activity that you can build on each week and have an observable goal for

your client. Also, for the appropriate client to work on reaching after dismounting, you can use bright blue painter's tape to mark a spot for reaching to the side. For example, to get a client to laterally flex and brush the horse's shoulder, it is helpful to have a visual marker for them to use. Again, each week they can lean a little farther. For small hands, a shoe polishing brush fits very well and looks like a miniature grooming brush.



Dismounting: To present a challenge, choose the method that encourages the most from your client. The motor planning opportunities are great! Once on the ground, they can help with untacking by opening buckles, carrying tack and brushing the horse with as much assistance as needed. If they are able, they can help open the arena gate which is a great time for the therapist to facilitate walking while the client is pushing against a weighted object, plus it is functional - the horse and leader need to leave the arena. Following the session, some slow stretches can be a great transition so spend a few minutes on the stretching bench or repeat a couple of the Brain Gym figure 8's before walking out to the car.

There is a wide range of activities with endless variations and these represent a small sample. Incorporating hippotherapy into occupational therapy at the barn is an important component

and it is essential to match the movements of the horse with the needs of the client. Choosing the appropriate activities will make their postural improvements functional. This is the key to the success of the intervention and the ultimate goal to transfer their skills into their Activities of Daily Living. Possibilities are endless.
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To present a challenge, choose the method that encourages the most from your client.

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