

Hippotherapy



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Background



- UCP/Saddle Pals Therapeutic Center, Orangevale, CA
 - Volunteer
 - PATH Registered Instructor
 - Volunteer Coordinator
 - Grant Project



- University of Southern California
 - Bachelor's/Master's Degree in Occupational Therapy
 - Equestrian Polo Team
- Hippotherapy
 - National Center for Equine Facilitated Therapy in Woodside, CA
 - Level 1 completed at Ride On in Chatsworth, CA
- OT Experience
 - Jabbergym Inc.
 - Xenophon Therapeutic Center
 - Leap of Faith Farms
 - Sierra Therapy Group
 - Kids and Horses
 - Handwriting Without Tears
 - ¾ of the way to becoming SIPT certified

Objectives



- Explain the difference between adaptive riding and hippotherapy
- Understand that hippotherapy is a treatment strategy, not a stand-alone therapy
- Gain knowledge to enhance adaptive riding lessons
- Identify how adaptive riding and hippotherapy can work together



What is Hippotherapy?



- "Hippos": "horse" in Greek
- Hippotherapy: a **treatment strategy** implemented by physical therapists, occupational therapists and speech-language pathologists
- Purpose: to achieve functional goals

Physical Therapy

- The treatment of disease, injury or deformity by physical methods such as massage, heat treatment and exercise



Occupational Therapy

- Treatment that helps people across the lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations)




Speech Therapy

- Speech therapy is aimed at improving speech, language, social and swallowing skills.



Semantics

- No such thing as a "Hippotherapist" or a Hippotherapy Practice
 - Therapists **include** hippotherapy in their practice
 - Therapists use the movement of the horse (or equine movement) in treatment
- Hippotherapy is a treatment strategy
 - NOT a modality, unique treatment approach, form of therapy or treatment.




Why a Horse?



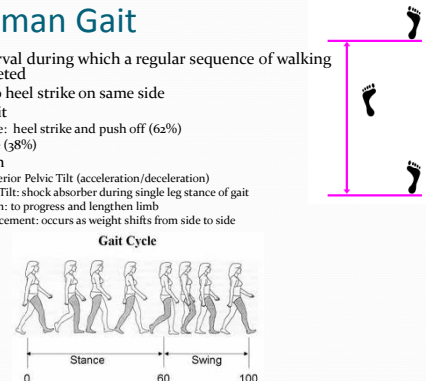
Gait

- Human Gait = Equine Gait
 - Equine movement generates responses in the client that are similar and essential for walking



Human Gait

- Gait Cycle: interval during which a regular sequence of walking events is completed
 - Heel strike to heel strike on same side
- Phases of Gait
 - Stance Phase: heel strike and push off (62%)
 - Swing Phase (38%)
- Pelvic Motion
 - Anterior/Posterior Pelvic Tilt (acceleration/deceleration)
 - Lateral Pelvic Tilt: shock absorber during single leg stance of gait
 - Pelvic Rotation: to progress and lengthen limb
 - Lateral Displacement: occurs as weight shifts from side to side



Equine Gait

- Hoof off: horse pushes off with the hind leg
 - Barrel of Horse: swings to opposite side creating lateral flexion in horse's spine
- Hoof strike:
 - hoof lands and horse moves over leg, the barrel shifts over to that side with pelvis raised and barrel elongated
 - Horse's Pelvis is at a 90 degree angle with human when astride on horse






The Walk
 The walk has four main beats per stride. Each leg is moved separately.
 The sequence for walking is: 1. raise hind, 2. raise fore, 3. set hind, 4. set fore.

Human Gait vs. Equine Gait

Human Cadence:	Equine Cadence
Adult: 111-122 steps/min	Medium Horse: 90-110 steps/min
Child: 123 steps/min	Medium Horse: 90-110 steps/min
	Pony: 120 steps/min

Translated Rider Pelvic Movement	Equine Pelvic Movement
Lateral Pelvic Tilt	Rotation of Horse's Pelvis
Pelvic Rotation	Lateral Flexion
Anterior Pelvic Tilt	Acceleration during swing phase of hind leg
Posterior Pelvic Tilt	Deceleration at strike and stance of hind leg
Lateral Pelvic Displacement	Center of gravity shifts side to side as horse steps



Strength

Balance & Postural Control




Flexibility

Coordination




- Gross Motor Coordination
- Fine Motor Coordination (hands and oral muscles)
- Bilateral Coordination
- Visual Motor Coordination

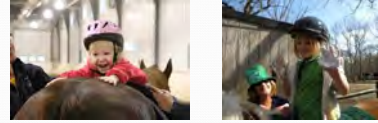


Sensory Integration

- The way the nervous system receives messages from the senses and turns them into appropriate motor and behavioral responses



Sensory Integration: Tactile

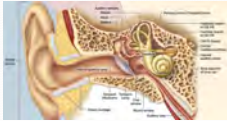


Tactile Processing: touch sensations to the skin
Tactile Input: touch, textures, messy play, etc.



Sensory Integration: Vestibular

- Vestibular Processing: perception of body position relative to gravity
- Vestibular Input: movement, spinning, turning, etc.



Sensory Integration: Proprioceptive

- Proprioception: sensation of body position felt by pressure to muscles and joints
- Proprioceptive input: muscle work or deep pressure which gives input to muscles and joints
- Horses walk about 60 steps per minute, providing 2,500 inputs per average therapy session!



Speech

- Articulation
- Phonation
- Respiration
- Voice



Language

- Expressive
- Receptive



Social Skills

Cognition

Typical Therapy Goals

- Long Term Goals (12-26 weeks)
 - What does patient/family want to achieve?
 - Patient will be able to participate in Special Olympics soccer league.
- Short Term Goals (2-4 weeks)
 - Smaller steps to reach ultimate goal
 - Patient will walk over a 3 step obstacle course with uneven surfaces with good balance.
 - Patient will kick ball from standing position 3 x with no loss of balance.
 - Patient will walk and run 300 ft over uneven terrain with no assistance.

Positioning

- Forward Sitting
 - Facilitates posterior pelvic tilt/less hip abduction
- Backward Sitting
 - Anterior pelvic tilt/increases base of support
- Side-Sitting and Modified Side-Sitting
 - Lateral weight shifts/more balance challenge/scapular retraction
 - Dissociation of trunk/pelvis
- Prone Over Barrel
 - Relaxation of spastic muscles/trunk extension
- Supine On Rump
 - Elongation of pectorals and rib cage
 - Strong vestibular and proprioceptive input
 - Requires very smooth, graded movement of the horse

Horse Selection

- Height
 - Safety/fear considerations
- Width
 - Wide or narrow base of support (BOS)
 - Posture (anterior/posterior pelvic tilt)
 - Hip flexibility
- Impulsion
 - Postural responses
 - Patient's muscle tone
- Movement
 - Pelvic motion desired in patient
 - Is motion gradable?

Utilizing the Horse

- Circles
- Serpentine
- Figure Eight
- Speed changes
- Transitions

Does Hippotherapy Work?

- Evidenced based
- Research proven
- <http://www.americanhippotherapyassociation.org/research/>



Typical Therapy Goals



- Long Term Goals (12-26 weeks)
 - What does patient/family want to achieve?
 - Patient will be able to participate in Special Olympics soccer league without difficulty.
- Short Term Goals (2-4 weeks)
 - Smaller steps to reach ultimate goal
 - Patient will walk over a 3 step obstacle course with uneven surfaces with good balance.
 - Patient will kick ball from standing position 3 x with no loss of balance.
 - Patient will walk and run 300' over uneven terrain with no assistance.

Discharge Criteria

- Patient reaches goals/desired outcome
- Patient does not wish to continue
- Medical complications prevent progress toward goals
- Therapist determines patient will no longer benefit
 - Plateau
 - Conditions occurring that compromise safety of patient or staff/horses



What happens next?

- Where does the patient go after discharge from therapy?
 - Home Exercise Program
 - Sports/ Extra Curricular Activities (Riding???)



GOODBYE GOOD LUCK



Adaptive Riding

- A unique combination of sport, recreation and education. Specially trained PATH International qualified instructors use their knowledge of disabilities to teach horsemanship skills to riders with varying ability levels.



Adaptive Riding & Hippotherapy Together

- Brings more participants to facility/helps more people
 - Doctors can refer for medical-based therapy treatment
 - Center can bill insurance companies/Medicaid
- Brings more volunteers
 - Students interested in becoming therapists/need observation hours
 - Clinical internship opportunities for PT/OT/ST students
- Collaboration between riding instructors and therapists
 - Modifications
 - Techniques specific to patient
 - Therapist provides status at discharge and goals met to instructor

What Happens if Patient Declines

- If minor
 - Call therapist
 - Have therapist watch a riding lesson
 - Can participate in both adaptive riding and hippotherapy
- If major
 - May need to refer back
 - Resume adaptive riding after another round of hippotherapy



Current Adaptive Riding Clients

- Patients that may benefit from hippotherapy also
 - Difficulty ambulating into arena
 - Difficulty climbing stairs to get onto horse
 - Difficulty maintaining sitting balance while on horse
 - Difficulty participating in sessions without constant guarding
 - Difficulty participating in activities during sessions without assistance



It Benefits Everybody!

- Families don't feel abandoned after D/C from hippotherapy
- Adaptive Riding Instructors have more knowledge of patient and patient's history
- Therapists get more feedback after D/C
- Full circle of therapy
 - Continuation of client/patient care
- We do this because we are passionate and love it!



Thank You!



Any Questions?