

Hippotherapy

Effective: March 1, 2019

Next Review: January 2020

Last Review: February 2019

IMPORTANT REMINDER

Medical Policies are developed to provide guidance for members and providers regarding coverage in accordance with contract terms. Benefit determinations are based in all cases on the applicable contract language. To the extent there may be any conflict between the Medical Policy and contract language, the contract language takes precedence.

PLEASE NOTE: Contracts exclude from coverage, among other things, services or procedures that are considered investigational or cosmetic. Providers may bill members for services or procedures that are considered investigational or cosmetic. Providers are encouraged to inform members before rendering such services that the members are likely to be financially responsible for the cost of these services.

DESCRIPTION

Hippotherapy describes physical therapy using a horse and consists of riding horseback in various positions.

MEDICAL POLICY CRITERIA

Hippotherapy is considered **investigational** for all indications.

NOTE: A summary of the supporting rationale for the policy criteria is at the end of the policy.

CROSS REFERENCES

None

BACKGROUND

Hippotherapy, also referred to as equine movement therapy, describes physical therapy using a horse and consists of riding horseback in various positions. Hippotherapy has been proposed as a technique for muscle and neurological reeducation in patients with lower extremity spasticity secondary to neuromuscular disorders (e.g., cerebral palsy, spinal cord

injury). The natural swaying motion of the horse induces pelvic movement in the rider that simulates human ambulation while variations in the horse's movements may prompt natural equilibrium movements in the rider.

Horseback riding is also being investigated as a social therapy for children with profound social and communication deficits, including autism spectrum disorder and other developmental disorders such as Down syndrome.

Simulated hippotherapy using a new device has been studied in European centers. Therapeutic interventions using such a device would be conducted in the physical/occupational therapy setting and are outside the scope of this policy.

EVIDENCE SUMMARY

In order to determine whether hippotherapy results in sustained improvements in clinically meaningful health outcomes, comparisons to conventional therapies in well-designed comparative studies (ideally randomized controlled trials) are needed using standardized functional measurement tools. Appropriate non-riding therapeutic comparisons to hippotherapy could include conventional physical/occupational therapy programs or simulated riding experiences.

The focus of the following evidence summary is on systematic reviews and randomized controlled trials (RCTs).

SYSTEMATIC REVIEWS

A systematic review by Trzmiel (2019) included 15 studies of equine-assisted therapy (EAT) in children with autism spectrum disorder.^[1] Most of these studies used psychosocial functioning outcomes, including Vineland Adaptive Behavior Scales (VABS) and Autism Behavior Checklist scores, and reported improvements in specific areas. However, the meta-analysis did not show any significant differences. A similar systematic review by Srinivasan (2018) reported that while some studies showed beneficial effects on behavioral skills, there limited evidence for perceptuo-motor, cognitive, and functional improvements.^[2]

Stergiou (2017) published a systematic review evaluating equine-assisted therapies, one of which was hippotherapy, to see if this treatment could improve balance, motor function, gait, muscle symmetry, pelvic movement, psychosocial factors and overall quality of life. Sixteen studies met the inclusion criteria, but only eight (four for children with cerebral palsy [CP], three for adults with multiple sclerosis [MS], one for post-stroke patients, and two for elderly patients with multiple health concerns) had enough data to be included in the analysis. The authors stated studies are lacking, the included studies had methodological limitations, including small sample size and that the analysis could not be divided between separate conditions. Although hippotherapy may be a treatment option to improve health outcomes for some patients, more research is needed.

Rigby (2015) evaluated peer review articles to evaluate health outcomes from three different types of horse assisted therapies, one of which was hippotherapy.^[3] The authors state that the studies show improved physical outcomes, but do not provide objective data on why the improvements occurred. The methods used for searching and including studies was completely clear, but in general the authors conclude that more studies are needed.

Anestis (2015) published results from a systematic review that examined equine-related treatments for mental disorders.^[4] Fourteen studies were included in the review, and more than half of the studies were small case series studies. All of the studies included in the review had multiple limitations, and the authors concluded that “the current evidence base does not justify the marketing and utilization of equine-related treatments for mental disorders”. Furthermore, the authors concluded that “such services should not be offered to the public unless and until well-designed studies provide evidence that justify different conclusions.”

The majority of systematic reviews on hippotherapy have been for children with CP.^[5-12] All of these reviews reported inconsistency in study findings with some studies reporting evidence of possible therapeutic effect in gross motor function in these children while others found no significant effect. Current studies were reported to have significant methodologic limitations that preclude conclusions, including but not limited to, lack of a non-riding control group, lack of randomized treatment allocation, small sample size, heterogeneity of subjects and treatment protocols, and lack of blinded assessment in those studies that included a control group.

Bronson (2010) published results from a systematic review on hippotherapy for patients with MS.^[13] Three small, nonrandomized trials were included in the review. One was a case control study^[14] with nine subjects, and the other studies, both case series,^[15,16] had 11 subjects each. The authors concluded that the studies provided emerging, but limited, evidence that hippotherapy improves balance in persons with MS, acknowledging limitations of small sample size, lack of randomization especially given the variable nature of MS, and lack of controls in two studies.

RANDOMIZED CONTROLLED TRIALS

A multi-center trial of hippotherapy for patients with MS was published by Vermöhlen (2018).^[17] The trial included 70 adults from five centers in Germany who were randomized to either standard care or standard care plus hippotherapy, and the outcomes included change in the Berg Balance Scale (primary outcome), pain, fatigue, and quality of life. While the trial did find some significant improvements in some outcomes, including the mean change in the Berg Balance Scale after 12 weeks (2.33, 95% CI 0.03 to 4.63, $p=0.047$), these were below the minimally clinically important difference threshold.

Deutz (2018) reported on an open-label cross-over randomized trial of hippotherapy for children with bilateral CP.^[18] There were 73 children in the study, which evaluated gross motor function and quality of life using the Gross Motor Function Measure (GMFM)-66, GMFM dimension E and D, Child Health Questionnaire (CHQ 28), and KIDSCREEN-27 parental versions. Participants received hippotherapy one or two times per week for 16 to 20 weeks. There were no significant improvements with hippotherapy compared with control for any of the measures except GMFM dimension E.

Borgi (2016) evaluated EAT in relationship to adaptive and executive functioning outcomes in children with autism spectrum disorder.^[19] Twenty-eight male children 6 to 12 years old were randomly assigned to attend equine assisted therapy ($n=15$) or to a control group ($n=13$). Children in both the control and experimental groups had comparable age and IQ. Participants attended EAT sessions in groups of three to four once a week for six months. Each subject was evaluated at baseline and at the end of the study, using the VABS. The authors reported improvements in adaptive and executive functioning but that additional studies are needed with larger sample sizes and long-term follow-up.

Kwon (2015) published an RCT of hippotherapy in children (age range, 4 to 10 years) with CP.^[20] Ninety-one subjects were randomized to hippotherapy (30 minutes twice weekly) or home-based aerobic exercise, both for eight consecutive weeks. Significant differences in composite measures of gross motor function improvement using the GMFM-88 and -66 were observed between groups. The authors stated the RCT could not prove hippotherapy was solely responsible for improved motor function and balance and did not evaluate long-term outcomes.

Frevel (2015) compared an Internet-based home training program to hippotherapy in 18 patients with MS.^[21] In this study, hippotherapy was considered to be the control intervention and the home training program to be the experimental intervention. Although both intervention groups showed significant improvement in static and dynamic balance capacity, no significant difference was seen between groups. The study had weak statistical power to detect a difference between treatments. The study cannot determine whether hippotherapy is effective compared to standard physical therapy.

The populations in other RCTs included post-stroke patients^[22,23] community-dwelling older adults with balance deficits,^[24,25] adolescents and adults with behavior challenges,^[26,27] adult female survivors of breast cancer,^[28] patients with MS,^[21] and children with autism.^[29] These studies did not permit conclusions about the impact of hippotherapy due to methodologic limitations, including but not limited to, the lack of description of randomization scheme, small sample size, study populations not representative of the broader U.S. population, heterogeneity between subjects and therapies, missing data, and moderate to large loss to follow-up.

PRACTICE GUIDELINE SUMMARY

No clinical practice guidelines with recommendations for hippotherapy were identified.

SUMMARY

There is not enough research to show that hippotherapy (horseback riding therapy) improves health outcomes for people with a variety of conditions. In addition, no practice guidelines recommend hippotherapy. Therefore, hippotherapy techniques for any condition is considered investigational.

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CODES

Codes	Number	Description
CPT	None	
HCPCS	S8940	Equestrian/Hippotherapy; per session

Date of Origin: February 2013