8.03.12	Hippotherapy		
Original Policy Date:	May 1, 2016	**Effective Date:**	May 1, 2021
Section:	8.0 Therapy	**Page:**	Page 1 of 14

Policy Statement

Hippotherapy is considered **investigational**.

NOTE: Refer to Appendix A to see the policy statement changes (if any) from the previous version.

Policy Guidelines

The following HCPCS S code is specific to this therapy:

- **S8940**: Equestrian/hippotherapy, per session

Description

Hippotherapy, also referred to as equine-assisted therapy, describes a treatment strategy that uses equine movement to engage sensory, neuromotor, and cognitive systems to achieve functional outcomes. Hippotherapy has been proposed as a therapy for patients with impaired walking or balance.

Related Policies

- N/A

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program [FEP]) prohibits plans from denying Food and Drug Administration (FDA)-approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Regulatory Status

- N/A

Rationale

Background
Hippotherapy
Hippotherapy has been proposed as a technique to decrease the energy requirements and improve walking in patients with cerebral palsy. It is thought that the natural swaying motion of the horse induces a pelvic movement in the rider that simulates human ambulation. Also, variations in the horse's movements can prompt natural equilibrium movements in the rider.

Hippotherapy is also being evaluated in patients with multiple sclerosis and other causes of gait disorders, such as strokes.

As a therapeutic intervention, hippotherapy is typically conducted by a physical or occupational therapist and is aimed at improving impaired body function. Therapeutic horseback riding is typically conducted by riding instructors and is more frequently intended as social therapy. It is hoped that the multisensory environment may benefit children with profound social and communication deficits, such as autism spectrum disorder and schizophrenia. When considered together, hippotherapy and therapeutic riding are described as equine-assisted activities and therapies.

This evidence review addresses equine-assisted activities that focus on improving physical functions such as balance and gait.

Literature Review
Evidence reviews assess the clinical evidence to determine whether the use of technology improves the net health outcome. Broadly defined, health outcomes are the length of life, quality of life, and ability to function, including benefits and harms. Every clinical condition has specific outcomes that are important to patients and managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms.

To assess whether the evidence is sufficient to draw conclusions about the net health outcome of technology, 2 domains are examined: the relevance, and quality and credibility. To be relevant, studies must represent 1 or more intended clinical use of the technology in the intended population and compare an effective and appropriate alternative at a comparable intensity. For some conditions, the alternative will be supportive care or surveillance. The quality and credibility of the evidence depend on study design and conduct, minimizing bias and confounding that can generate incorrect findings. The randomized controlled trial (RCT) is preferred to assess efficacy; however, in some circumstances, nonrandomized studies may be adequate. Randomized controlled trials are rarely large enough or long enough to capture less common adverse events and long-term effects. Other types of studies can be used for these purposes and to assess generalizability to broader clinical populations and settings of clinical practice.

Cerebral Palsy
Clinical Context and Therapy Purpose
The purpose of hippotherapy in patients with cerebral palsy is to provide a treatment option that is an alternative to or an improvement on existing therapies.
The question addressed in this evidence review is: Does the use of hippotherapy in patients who have cerebral palsy improve net health outcomes?

The following PICO was used to select literature to inform this review.

Populations
The relevant population of interest are patients with cerebral palsy. Patients with spastic cerebral palsy frequently have impaired walking ability due to hyperactive tendon reflexes, muscle hypertonia, and increased resistance to increasing velocity of muscle stretch. These abnormalities result in a lack of selective muscle control and poor equilibrium responses.

Interventions
The treatment being considered is hippotherapy. Hippotherapy is conducted by a physical or occupational therapist and a horseback riding instructor in an outdoor setting.
Patients with cerebral palsy are actively managed by pediatricians, neurologists, physical and occupational therapists, and other specialists in outpatient clinical settings.

Comparators
The following practices are currently being used to treat cerebral palsy: standard physical, occupational, and speech therapy; surgery; and/or medication.
Patients with cerebral palsy are actively managed by pediatricians, neurologists, physical and occupational therapists, and other specialists in outpatient clinical settings; surgery would be performed by a surgeon in a tertiary care setting.

Outcomes
The general outcomes of interest are symptoms and functional outcomes. Cerebral palsy is a lifelong disorder, and patients may be managed from infancy through adulthood and monitored throughout their lives.

Available studies show that the duration of hippotherapy can range from a total of 8 minutes in a single session, to 24 hours over several weeks. The possible benefits of hippotherapy include improving walking and equilibrium in cerebral palsy patients.

Study Selection Criteria
Methodologically credible studies were selected using the following principles:

1. To assess efficacy outcomes, comparative controlled prospective trials were sought, with a preference for RCTs;
2. In the absence of such trials, comparative observational studies were sought, with a preference for prospective studies.
3. To assess long-term outcomes and adverse events, single-arm studies that capture longer periods of follow-up and/or larger populations were sought.
4. Studies with duplicative or overlapping populations were excluded.

Review of Evidence
Systematic Reviews
A number of systematic reviews on hippotherapy in children with cerebral palsy have been published. A meta-analysis by Tsend et al (2013) included 5 studies on therapeutic horseback riding and 9 studies on hippotherapy N=277 children with spastic cerebral palsy).[1,] Included in the analysis were RCTs and observational studies that compared pre- with post-riding results; 10 of the 14 studies provided level 4 evidence. Reviewers evaluated Gross Motor Function Measures across studies; meta-analysis indicated that short-term hippotherapy (8 to 10 minutes of total riding time) significantly reduced the asymmetrical activity of the hip adductor muscles and could improve postural control in cases of spastic cerebral palsy (Gross Motor Function Classification System level <5). However, long-term hippotherapy or therapeutic riding (8 to 22 hours) did not have a statistically significant effect on Gross Motor Function Measures in children with spastic cerebral palsy. Methodologic limitations included the use of nonvalidated outcome measures, lack of clinically meaningful differences between groups, and in the meta-analysis specifically the inclusion of observational studies (pre-post comparisons) without control groups.

Zadnikar and Kastrin (2011) published a meta-analysis of hippotherapy and therapeutic horseback riding in children with cerebral palsy.[2,] Eight studies meeting inclusion criteria (quantitative study design, outcomes that included postural control or balance) were selected. The meta-analysis included 84 children with cerebral palsy in the intervention groups and 89 children in the comparison groups (39 with cerebral palsy, 50 with a disability). The treatment effect on postural control or balance showed a positive effect in 76 (90%) of the 84 children in the intervention groups. In the comparison group of 39 children with cerebral palsy, 21 (54%) experienced positive effects from the comparison treatment, which consisted of a continuation of their weekly physical therapy and/or occupational therapy, or sitting on a barrel or in an artificial saddle. Although this difference was statistically significant ($p<0.001$), the clinical significance of the effect cannot be determined from this analysis. Also, the analysis found heterogeneity among the studies, which typically would preclude meta-analysis, and a funnel plot showed asymmetry, indicating possible publication bias. Finally, the inclusion of poor-quality studies in the meta-analysis further limited clinical interpretation.

Randomized Controlled Trials

Chinniah et al (2020) investigated the effects of a horse riding simulator (i.e., an electronic horse, working under the principles of hippotherapy) on sitting motor function in 30 children (2 to 4 years of age) with spastic cerebral palsy.[3] This study randomly assigned subjects to horse riding simulator along with conventional physiotherapy (n=15) or conventional physiotherapy (n=15), with the therapist blinded to group allocation and time of assessment. Sitting motor function was evaluated via the Gross Motor Function Measure-88 at baseline, 4, 8, and 12 weeks with pre- and post-intervention scores analyzed. Results revealed that the mean value of Gross Motor Function Measure improved in both groups over the 12 weeks; however, the experimental group had significant improvement over the control group at all of the assessed weeks ($p<0.01$). Limitations of the study included its small sample size, lack of long-term follow-up, specific patient population (i.e., children with spastic diplegia with mild and moderate disability levels), and focus on sitting motor function.

Kwon et al (2015) published an RCT of hippotherapy in children (age range, 4 to 10 years) with cerebral palsy.[4] Ninety-one subjects were randomized to hippotherapy (30 minutes twice weekly) or home-based aerobic exercise, both for 8 consecutive weeks. Significant differences in composite measures of gross motor function improvement using the 88 item Gross Motor Function Measures and 66 item Gross Motor Function Measures were observed between groups. Trial limitations included the unclear clinical significance of the outcomes, uncertain attributes of the control group treatment, and lack of long-term outcomes.

An RCT by Davis et al (2009) included children age 4 to 12 years with cerebral palsy who completed a 10-week session of hippotherapy with pre- and post-treatment assessments obtained from 72 families (representing 35 intervention, and 37 control subjects).[5], Randomization to hippotherapy or a waiting-list control with usual therapy was stratified by age and level of gross motor function. The physical therapist assessor was blinded to randomization, and participants were asked not to mention if they had completed the intervention at the time of the assessment. No differences between the hippotherapy and control groups were found for functional status (therapist-assessed) or child-reported quality of life. Minor differences were found in the parent-reported quality of life and child health scores in the domain of family cohesion. Overall, hippotherapy did not have a clinically significant impact on children with cerebral palsy.

McGibbon et al (2009) investigated the impact of hippotherapy on the symmetry of adductor muscle activity during walking in children with spastic cerebral palsy.[6] In phase 1 of the trial, 47 children (age range, 4 to 16 years) with spastic cerebral palsy were randomized to a single 10-minute session of hippotherapy or barrel sitting. Adductor muscle symmetry was measured before and after the session. The hippotherapy group demonstrated a statistically significant difference in adductor symmetry after this single intervention. Six children went on to participate in a phase 2, 36-week study (12 weeks without hippotherapy [baseline], 12 weeks of weekly hippotherapy, 12 weeks without intervention). Four of 6 subjects showed improved symmetry during walking after 12 weeks of hippotherapy; this improvement was maintained for an additional 12 weeks posttreatment. All 6 children improved on the *66*-item Gross Motor Function Measure, and 1 child began walking without a walker after 4 weeks of hippotherapy. Five children improved in at least 1 area of the Self-Perception Profile. The authors noted that the trial had a small sample size in phase 2, spasticity was diversely distributed among subjects, and inclusion criteria led to a sample with mixed characteristics.

Section Summary: Cerebral Palsy

We identified 4 RCTs comparing hippotherapy with a control, only 1 of which involved a larger patient population (N=72) undergoing usual physical therapy and blinded outcomes assessment. This trial showed no difference between groups in functional status at follow-up, while other trials reported significant between-group differences, which suggests that observed differences might have been due to bias.

Multiple Sclerosis

Clinical Context and Therapy Purpose

The purpose of hippotherapy in patients with multiple sclerosis is to provide a treatment option that is an alternative to or an improvement on existing therapies.

The question addressed in this evidence review is: Does the use of hippotherapy in patients who have multiple sclerosis improve net health outcomes?

The following PICO was used to select literature to inform this review.

Populations

The relevant population of interest are patients with multiple sclerosis. Patients with multiple sclerosis frequently have impaired walking ability due to their system attacking and damaging the myelin protecting the nerve cells, which diminishes the function of the brain and spinal cord. These abnormalities result in a lack of selective muscle control and poor equilibrium.

Interventions

The treatment being considered is hippotherapy. Hippotherapy is conducted by a physical or occupational therapist and a horseback riding instructor in an outdoor setting.
Patients with multiple sclerosis are actively managed by neurologists in an outpatient clinical setting.

Comparators

The following practices are currently being used to treat multiple sclerosis: medications and occupational therapy.
Patients with multiple sclerosis are actively managed by neurologists in an outpatient clinical setting.

Outcomes

The general outcomes of interest are symptoms and functional outcomes. Multiple sclerosis has no cure. Patients are managed from diagnosis through the rest of their lives.
Available studies have shown a duration of hippotherapy of up to 20 sessions over 6 months. The possible benefits of hippotherapy include improving walking ability and equilibrium in multiple sclerosis patients.

Study Selection Criteria

Methodologically credible studies were selected using the following principles:

1. To assess efficacy outcomes, comparative controlled prospective trials were sought, with a preference for RCTs;
2. In the absence of such trials, comparative observational studies were sought, with a preference for prospective studies.
3. To assess long-term outcomes and adverse events, single-arm studies that capture longer periods of follow-up and/or larger populations were sought.
4. Studies with duplicative or overlapping populations were excluded.

Review of Evidence

Comparative Studies

A systematic review by Bronson et al (2010) evaluated 3 studies on the use of hippotherapy for patients with multiple sclerosis.[7] Included in the review was a comparative study by Silkwood-Sherer and Warmbier (2007), which found that 14 weekly sessions of hippotherapy significantly improved balance in 9 patients with multiple sclerosis compared with a control group of 6 patients.[8] Each of the other 2 studies in the review, both case series, included 11 subjects; these series also reported improvements in balance with hippotherapy. Reviewers concluded these studies provided emerging evidence that hippotherapy could improve balance in persons with multiple sclerosis, although they acknowledged the small sample sizes, lack of randomization (especially given the variable nature of multiple sclerosis), and lack of controls in 2 studies.

A study by Munoz-Lasa et al (2011) compared therapeutic horseback riding (with non-therapist riding instructors) with traditional physical therapy in 27 patients who had multiple sclerosis.[9] The therapeutic horseback riding focused on progressively challenging the rider's motor skills and the individualized physical therapy consisted of aerobic, balance, strengthening, and flexibility exercise sessions. The interventions were self-selected and were provided in 20 sessions over 6 months. The therapeutic horseback riding group showed a significant improvement on the balance subscale of the Tinetti Performance Oriented Mobility Assessment and 2 gait parameters (stride time, ground reaction forces). Five (42%) of 12 horseback riders showed a clinically significant improvement. Gait speed and cadence and scores on the Extended Disability Status Scale and the Barthel Index did not improve. No significant change was found in the control group. It was not reported whether the changes found after therapeutic horseback riding were significantly greater than those of the physical therapy control group.

In an RCT, Frevel and Maurer (2015) compared an Internet-based home training program with hippotherapy in 18 patients who had multiple sclerosis.[10] In this trial, hippotherapy was considered the control intervention and the home training program the experimental intervention. Although both intervention groups showed significant improvements in static and dynamic balance capacity, no significant differences were found between groups. The trial had weak statistical power to detect a difference between treatments. It cannot be determined from this trial whether hippotherapy is more effective than standard physical therapy.

Section Summary: Multiple Sclerosis
Current evidence on the use of hippotherapy to treat multiple sclerosis is inconclusive and the studies conducted have been flawed.

Stroke
Clinical Context and Therapy Purpose
The purpose of hippotherapy in patients with stroke is to provide a treatment option that is an alternative to or an improvement on existing therapies.

The question addressed in this evidence review is: Does the use of hippotherapy in patients who have had a stroke improve net health outcomes?
The following PICO was used to select literature to inform this review.

Populations
The relevant population of interest are patients with stroke. Patients who have had a stroke frequently have impaired walking ability due to damage to the brain caused by interruption of blood supply or bleeding into the brain.

Interventions
The treatment being considered is hippotherapy. Hippotherapy is conducted by a physical or occupational therapist and a horseback riding instructor in an outdoor setting.
Patients with stroke are actively managed by neurologists in an outpatient clinical setting, in some cases by neurosurgeons in a tertiary care setting, as well as physical, occupational, and/or speech therapists.

Comparators
The following practices are currently being used to treat symptoms following stroke: physical, occupational, and speech therapy.

Patients with stroke are actively managed by neurologists in an outpatient clinical setting, in some cases by neurosurgeons in a tertiary care setting, as well as physical, occupational, and/or speech therapists.

Outcomes
The general outcomes of interest are symptoms and functional outcomes. A stroke can have different effects, depending on which part of the brain was damaged and the extent of the damage. As a result, the length of time a patient is under a neurologist's care varies, and the focus may become prevention of another stroke in the future.

The 1 available study showed a duration of hippotherapy of 30 minute sessions conducted 3 times per week for 8 weeks. The possible benefits of hippotherapy include improving walking and equilibrium in stroke patients.

Study Selection Criteria
Methodologically credible studies were selected using the following principles:

1. To assess efficacy outcomes, comparative controlled prospective trials were sought, with a preference for RCTs;
2. In the absence of such trials, comparative observational studies were sought, with a preference for prospective studies.
3. To assess long-term outcomes and adverse events, single-arm studies that capture longer periods of follow-up and/or larger populations were sought.
4. Studies with duplicative or overlapping populations were excluded.

Review of Evidence
Randomized Trials
Lee et al (2014) conducted a small randomized trial assessing hippotherapy for recovery of gait and balance in 30 patients poststroke.[11.] Patients were selected if they could walk independently or with a walking aid, had spasticity in a paretic lower extremity as graded by a score of less than 2 on the Ashworth Scale, and could train for more than 30 minutes. Patients were randomized to hippotherapy or treadmill for 30 minutes, 3 days a week, for 8 weeks. At the end of training, gait speed and step length asymmetry ratio were assessed, and balance was measured with the Berg Balance Scale. The hippotherapy group showed significant improvements in balance, gait speed, and step length asymmetry, while the treadmill training group improved only in step length asymmetry. Improvements in gait speed and step length asymmetry were significantly greater for the hippotherapy group than for the treadmill group.

Bunkertorp-Kail et al (2019) completed an evaluation of horse-riding or rhythm and music-based therapy in comparison to control in 123 subjects in the late phase after stroke (average number of days elapsed from stroke insult: 1056 days).[12.] Tables 1 and 2 summarize the key characteristics and results of this study, focusing on hippotherapy in comparison to control. Post-intervention, the horse riding therapy group completed the 10 minute walk test faster at both self-selected and fast speed, with fewer steps (-2.17 [95% CI, -3.30 to -1.04]; p=0.002 and -1.40 [95% CI, -2.36 to -0.44]; p=0.020, respectively), as compared to controls. The horse riding therapy group also showed improvements in functional task performance. The gains were partly maintained at 6 months among horse riding therapy participants. The authors noted that the study population was limited to individuals with moderate impairment after stroke and that future research should be extended to other populations of stroke survivors.

Table 1. Summary of Key RCT Characteristics

Study	Countries	Sites	Dates	Participants	Interventions	
Bunketrop-Kall et al (2019)[12.]; [13.]	Sweden	Sahlgrenska University Hospital	2010 to 2014	123 subjects in the late phase after stroke (10 months to 5 years)	Active: Horse-riding therapy (n=41) or Rhythm and music-based therapy (n=41)	Control (n=41)

Table 2. Summary of Key RCT Results

Study	10 minute walk test - self-selected speed (seconds)	10 minute walk test - fast speed (seconds)	6 minute walk test (meters)	Modified Motor Assessment Scale
Bunketrop-Kall et al (2019)[12,]	Change from baseline to post-intervention (95% CI)	Change from baseline to post-intervention (95% CI)	Change from baseline to post-intervention (95% CI)	Change from baseline to post-intervention (95% CI)
Horse-riding therapy	-2.22 (-3.55 to -0.88)	-1.19 (-2.18 to -0.18)	27.06 (15.39 to 38.72)	1.13 (0.74 to 1.52)
Control	0.37 (-0.94 to 1.68)	0.88 (-0.40 to 2.16)	8.60 (-3.28 to 20.48)	0.18 (-0.20 to 0.57)
p value	0.001	0.003	0.177	0.001

CI: confidence interval.

Section Summary: Stroke
The current evidence base on the use of hippotherapy to treat stroke is not sufficiently robust to draw conclusions about efficacy.

Other Gait and Balance Disorders
Clinical Context and Therapy Purpose
The purpose of hippotherapy in patients with other gait and balance disorders not caused by cerebral palsy, multiple sclerosis, or stroke is to provide a treatment option that is an alternative to or an improvement on existing therapies.

The question addressed in this evidence review is: Does the use of hippotherapy in patients with other gait and balance disorders improve net health outcomes?
The following PICO was used to select literature to inform this review.

Populations
The relevant population of interest are patients with other gait and balance disorders not caused by cerebral palsy, multiple sclerosis, or stroke.

Interventions
The treatment being considered is hippotherapy. Hippotherapy is conducted by a physical or occupational therapist and a horseback riding instructor in an outdoor setting.
Patients with other gait and balance disorders are actively managed by neurologists, primary care physicians, physical or occupational therapists, or other medical specialists.

Comparators
The following practices are currently being used to treat other gait and balance disorders not caused by cerebral palsy, multiple sclerosis, or stroke : standard physical or occupational therapy or medication.

Patients with other gait and balance disorders are actively managed by neurologists, primary care physicians, physical or occupational therapists, or other medical specialists.

Outcomes
The general outcomes of interest are symptoms and functional outcomes. Gait and balance disorders may have many causes, and the length of hippotherapy would depend upon the underlying cause. The available studies showed a duration of 8 to 10 weeks of twice-weekly sessions.

Study Selection Criteria
Methodologically credible studies were selected using the following principles:

1. To assess efficacy outcomes, comparative controlled prospective trials were sought, with a preference for RCTs;

2. In the absence of such trials, comparative observational studies were sought, with a preference for prospective studies.
3. To assess long-term outcomes and adverse events, single-arm studies that capture longer periods of follow-up and/or larger populations were sought.
4. Studies with duplicative or overlapping populations were excluded.

Review of Evidence

Systematic Reviews

The systematic review by Wood and Fields (2019) evaluated 78 studies on hippotherapy dating from 1998 to 2018, some of which are described in more detail below.[14] Seventy-seven of the 78 studies quantified results, and 59 studies were quasi-experimental designs. The most basic definition of hippotherapy in the studies was the use of equine movement by such providers as physical, occupational, and speech-language therapists. However, the definitions also varied from a therapy to improve motor function to one that treats anything by involving a horse.

Among the studies, the most commonly assessed condition for hippotherapy was cerebral palsy (51%). Other conditions were multiple sclerosis, Down syndrome, autism spectrum disorder, intellectual disability, attention deficit hyperactivity disorder, traumatic brain injury, cerebral vascular accident, and others. The most often reported providers of hippotherapy were paired physical therapists and therapeutic riding instructors. Hippotherapy sessions, on average, were 38 minutes (range=8 to 90 min; standard deviation [SD]=23.19 min), and the average number of sessions was 17.8 (range=1 to 104; SD=22.16). Across all studies, 517 outcomes were classified as either International Classification of Functioning, Disability and Health (ICF), body functions and structures, ICF activity/participation, or other outcomes. Among the ICF-body functions outcomes, movement/gait was most reported, with 70% positive reported outcomes. Less reported, but all predominantly positive were emotional fix (72%), muscle tone (74%), energy/drive (75%), pain (65%), and cognitive fix (100%). More or equally negative effects were reported with heart rate (53%), psychosocial fix (50%), and muscle power (58%). The ICF-AP outcomes showed mostly positive effects in daily mobility (78%) and self-care activities (67%); interpersonal interactions/relationships, recreation/leisure, play, carrying/handling objects, and other activities were all 100% positive. No benefit was seen in education and domestic life tasks. Research into integrating equine movement as a therapy tool should continue, with more efficacy trials to identify the most promising interventions for further examination.

Comparative and Noncomparative Studies

Comparative studies of hippotherapy and treatments for outcomes other than balance and gait have been conducted in community-dwelling subjects.[15,16,17] Although subjects showed some improved outcomes, the study subjects did not have any balance or gait disorders, and so the clinical importance of the findings is unclear. A prospective United States study by Homnick et al (2013) evaluated 9 older adults (mean age, 76.4 years) with balance deficits and found improvements in balance and quality of life measured with a pretest-posttest design.[18] Without a comparison group, it is uncertain to what extent the improvements can be attributed to hippotherapy.

Silkwood-Sherer et al (2012) reported on the efficacy of hippotherapy in a convenience sample of 16 children with mild-to-moderate balance deficits secondary to a variety of disorders.[19] The most common diagnoses were cerebral palsy (n=5), Down syndrome (n=3), developmental coordination disorder (n=2), and autism (n=2). Baseline and posttreatment Pediatric Balance Scale tests were videotaped and sent in random order to 3 pediatric physical therapists for scoring. The Activities Scale for Kids-Performance questionnaires were completed by the children or their parents. Hippotherapy sessions, conducted twice weekly for 6 weeks, yielded significant improvements on the Pediatric Balance Scale (from a median of 49.0 to 53.0) and the Activities Scale for Kids-Performance (from a median of 81.7 to 92.1). This trial lacked a control group. Giagazoglou et al (2012) reported on the effect of hippotherapy on balance and strength in a controlled trial of 19 adolescents with intellectual disability.[20] Balance and strength were assessed using a pressure platform before and after 10 weeks of both hippotherapy (n=10) and

the nonintervention control (n=9). There were no significant differences between groups in double leg stance or left leg stance; however, there were significant group-by-time interactions in balance with the right leg stance. Measures of strength were improved following hippotherapy, with significant group-by-time interactions. This study lacked an active therapy control group.

In another small study (2007) of 12 patients with spastic spinal cord injury, hippotherapy resulted in short-term improvements in spasticity and well-being.[21,]

Section Summary: Other Gait and Balance Disorders
Current evidence has suggested potential benefit in the treatment of other gait and balance disorders with hippotherapy, but the relevant studies lack control groups, which limits the conclusions that can be drawn.

Summary of Evidence
For individuals who have cerebral palsy, multiple sclerosis, stroke, or gait and balance disorders other than cerebral palsy, multiple sclerosis, and stroke who receive hippotherapy, the evidence includes systematic reviews, randomized trials, and case series. Relevant outcomes include symptoms and functional outcomes. Studies in cerebral palsy, multiple sclerosis, stroke, and other indications have had variable findings. The randomized trials are generally small and have significant methodologic problems. In the largest randomized trial conducted to date (72 children), which had blinding outcome assessment, hippotherapy had no clinically significant impact on children with cerebral palsy. There are no RCT s showing that hippotherapy is superior to alternative treatments for patients with multiple sclerosis. Hippotherapy for other indications has been compared primarily with no intervention and, although some benefits have been seen, it has not been shown to be more effective than other active therapies. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Supplemental Information
The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the evidence review conclusions.

Practice Guidelines and Position Statements
Guidelines or position statements will be considered for inclusion in ‘Supplemental Information’ if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American Hippotherapy Association, Inc.
In their 2017 statement of best practices, the American Hippotherapy Association states that hippotherapy is contraindicated for acute exacerbations of multiple sclerosis and other conditions that can flare.[22,]

United States Preventive Services Task Force Recommendations
Not applicable.

Medicare National Coverage
There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

Ongoing and Unpublished Clinical Trials
Some currently ongoing and unpublished trials that might influence this review are listed in Table 3.

Table 3. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT03889262	Development of Simulated Hippotherapy System and Investigation of Its Effectiveness in Children With Cerebral Palsy	20	Sep 2019 (not yet recruiting)
Unpublished			
NCT03528993	The Effect of Exercise by Mechanical Hippotherapy Device on Postural Stability and Balance in Stroke	30	May 2019 (updated 08/07/19)

NCT: national clinical trial.

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Documentation for Clinical Review

- No records required

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to product design; therefore, contract language should be reviewed before applying the terms of the Policy.

The following codes are included below for informational purposes. Inclusion or exclusion of a code(s) does not constitute or imply member coverage or provider reimbursement policy. Policy Statements are intended to provide member coverage information and may include the use of some codes for clarity. The Policy Guidelines section may also provide additional information for how to interpret the Policy Statements and to provide coding guidance in some cases.

Type	Code	Description
CPT®	None	
HCPCS	S8940	Equestrian/hippotherapy, per session

Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

Effective Date	Action
05/01/2016	BCBSA Medical Policy adoption
05/01/2017	Policy revision without position change
05/01/2018	Policy revision without position change
05/01/2019	Policy revision without position change
05/01/2020	Annual review. No change to policy statement. Literature review updated.
05/01/2021	Annual review. No change to policy statement. Literature review updated.

Definitions of Decision Determinations

Medically Necessary: Services that are Medically Necessary include only those which have been established as safe and effective, are furnished under generally accepted professional standards to treat illness, injury or medical condition, and which, as determined by Blue Shield, are: (a) consistent with Blue Shield medical policy; (b) consistent with the symptoms or diagnosis; (c) not furnished primarily for the convenience of the patient, the attending Physician or other provider; (d) furnished at the most appropriate level which can be provided safely and effectively to the patient; and (e) not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of the Member's illness, injury, or disease.

Investigational/Experimental: A treatment, procedure, or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

Split Evaluation: Blue Shield of California/Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a split evaluation, where a treatment, procedure, or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

Prior Authorization Requirements (as applicable to your plan)

Within five days before the actual date of service, the provider must confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should be directed to the Prior Authorization Department at (800) 541-6652, or the Transplant Case Management Department at (800) 637-2066 ext. 3507708 or visit the provider portal at www.blueshieldca.com/provider.

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. Blue Shield of California may consider published peer-reviewed scientific literature, national guidelines, and local standards of practice in developing its medical policy. Federal and state law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over medical policy and must be considered first in determining covered services. Member contracts may differ in their benefits. Blue Shield reserves the right to review and update policies as appropriate.

Appendix A

POLICY STATEMENT (No changes)	
BEFORE	**AFTER**
Hippotherapy 8.03.12 **Policy Statement:** Hippotherapy is considered **investigational**.	**Hippotherapy 8.03.12** **Policy Statement:** Hippotherapy is considered **investigational**.