

Repository Corticotropin Injections (for Pennsylvania Only)

Policy Number: CSPA2024D0037Q

Effective Date: May 1, 2024

[Instructions for Use](#)

Table of Contents	Page
Application	1
Coverage Rationale	1
Applicable Codes	2
Background	3
Clinical Evidence	3
U.S. Food and Drug Administration	5
References	6
Policy History/Revision Information	7
Instructions for Use	7

Related Policies
None

Application

This Medical Benefit Drug Policy only applies to the state of Pennsylvania.

Coverage Rationale

This policy refers to the following drug products:

- Acthar® Gel (repository corticotropin injection)
- Purified Cortrophin Gel™ (repository corticotropin injection USP)

Acthar Gel (repository corticotropin injection) and Purified Cortrophin Gel (repository corticotropin injection USP) are proven and medically necessary for the treatment of:

- Infantile spasm (i.e., West Syndrome)¹ when **all** of the following criteria are met:
 - Diagnosis of infantile spasms (i.e., West Syndrome); **and**
 - Patient is less than 2 years old; **and**
 - Provider attestation that the caregiver is not able to be trained or is physically unable to administer the drug. Provider must submit explanation (applies only to medical benefit review); **and**
 - Dosing for infantile spasm is as follows:
 - Initial dose: 75 U/m² intramuscular (IM) twice daily for 2 weeks
 - After 2 weeks, dose should be tapered according to the following schedule: 30 U/m² IM in the morning for 3 days; 15 U/m² IM in the morning for 3 days; 10 U/m² IM in the morning for 3 days; and 10 U/m² IM every other morning for 6 days (3 doses)

and

 - Authorization will be for no longer than 1 month
- Opsoclonus-myooclonus syndrome (i.e., OMS, Kinsbourne Syndrome) when **all** of the following criteria are met:
 - Diagnosis of Opsoclonus-myooclonus syndrome (i.e., OMS, Kinsbourne Syndrome); **and**
 - Provider attestation that the caregiver is not able to be trained or is physically unable to administer the drug; provider must submit explanation (applies only to medical benefit review); **and**
 - Authorization will be for no longer than 12 months

Acthar Gel and Purified Cortrophin Gel are medically necessary for the treatment of acute exacerbations of multiple sclerosis when all of the following criteria are met:

- Diagnosis of multiple sclerosis was made by, or in consultation with, a neurologist; **and**
- **One** of the following:
 - Patient has tried and failed therapy with both an oral and an intravenous formulation of a corticosteroid in the past 60 days; **or**
 - Patient has a documented intolerance or contraindication to corticosteroid therapy
- and**
- Dose does not exceed 120 units daily and is not given for more than 3 weeks

Acthar Gel and Purified Cortrophin Gel are unproven for treatment of the following disorders and diseases, and requests for coverage will be reviewed for medical necessity:

- Allergic States: Serum sickness, atopic dermatitis
- Collagen Diseases: Systemic lupus erythematosus, systemic dermatomyositis (polymyositis)
- Dermatologic Diseases: Severe erythema multiforme, Stevens-Johnson syndrome, severe psoriasis
- Edematous State: To induce a diuresis or a remission of proteinuria in the nephrotic syndrome without uremia of the idiopathic type or that due to lupus erythematosus
- Ophthalmic Diseases: Severe acute and chronic allergic and inflammatory processes involving the eye and its adnexa such as keratitis, iritis, iridocyclitis, diffuse posterior uveitis and choroiditis, optic neuritis, chorioretinitis, anterior segment inflammation
- Respiratory Diseases: Symptomatic sarcoidosis
- Rheumatic Disorders: Psoriatic arthritis, rheumatoid arthritis, including juvenile rheumatoid arthritis, ankylosing spondylitis, acute gouty arthritis
- Any indication outside of the proven indications above

Requests outside of this criteria will be reviewed for medical necessity on a case by case basis.

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by federal, state, or contractual requirements and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

HCPCS Code	Description
J0801	Injection, corticotropin (Acthar Gel), up to 40 units
J0802	Injection, corticotropin (ANI), up to 40 units

Diagnosis Code	Description
G25.3	Myoclonus
G25.9	Extrapyramidal and movement disorder, unspecified
G35	Multiple sclerosis
G40.821	Epileptic spasms, not intractable, with status epilepticus
G40.822	Epileptic spasms, not intractable, without status epilepticus
G40.823	Epileptic spasms, intractable, with status epilepticus
G40.824	Epileptic spasms, intractable, without status epilepticus
H55.89	Other irregular eye movements

Background

Acthar Gel and Purified Cortrophin Gel are adrenocorticotrophic hormone (ACTH) analogues.¹⁻³ Repository corticotropin injection and ACTH stimulate the adrenal cortex to secrete cortisol, corticosterone, aldosterone, and a number of weakly androgenic substances. Prolonged administration of large doses of repository corticotropin injection induces hyperplasia and hypertrophy of the adrenal cortex and continuous high output of cortisol, corticosterone, and weak androgens. The release of endogenous ACTH is influenced by the nervous system via the regulatory hormone released from the hypothalamus and by a negative corticosteroid feedback mechanism. Elevated plasma cortisol suppresses ACTH release. Repository corticotropin injection also binds to melanocortin receptor. Both endogenous ACTH and repository corticotropin injection have a trophic effect on the adrenal cortex which is mediated by cyclic adenosine monophosphate (cyclic AMP).

Clinical Evidence

Proven

Infantile Spasms (i.e., West Syndrome)

In a single-center, single-blind, parallel-group, randomized clinical trial, Wanigasinghe et al, investigated whether ACTH is not superior to high-dose prednisolone for treatment of newly diagnosed West Syndrome (WS).²³ Ninety-seven infants, newly diagnosed with WS, were randomized to receive either 14 days of oral prednisolone (40 to 60 mg/day) or an intramuscular (IM) injection of ACTH (40 to 60 IU/every other day). This followed the United Kingdom Infantile Spasm Study protocol. Infantile spasm (IS) remission was blindly evaluated by day 14, including using a 30-minute electroencephalograph (EEG) as well as continued spasm freedom for 28 days. Forty-eight infants received prednisolone, and 49 infants received ACTH. By day 14, cessation of infantile spasms occurred in 58.3% of infants (28/48) on prednisolone compared with only 36.7% (18/49) of infants given ACTH ($p = 0.03$). EEG and spasm cessation showed electroclinical remission in 21 prednisolone infants versus 9 ACTH infants ($p = 0.008$). Days required for spasm remission was significantly less in the prednisolone group (3.85 days \pm 2.4) compared with ACTH (8.65 days \pm 3.7) ($p = 0.001$). The authors concluded that ACTH therapy at the trial dose did not yield superior rates of EEG or clinical remission when compared with the trial dose of prednisolone. More patients achieved electroclinical remission when treated with prednisolone than with ACTH.

Opsoclonus-Myoclonus Syndrome (i.e., OMS, Kinsbourne Syndrome)

Tate et al evaluated the efficacy and safety of corticotropin-based immunotherapies in a prospective, rater-blinded, exploratory study of previously untreated or steroid-dependent children ($n = 74$) with opsoclonus-myoclonus syndrome (OMS).¹⁷ Children with neuroblastomas were excluded. Children were put into 1 of 6 groups: corticotropin alone or with intravenous immunoglobulin (groups 1 and 2, active controls); or both with rituximab (group 3) or cyclophosphamide (group 4); or with rituximab plus chemotherapy (group 5) or steroid spacers (group 6). Data was obtained through the Corticotropin Intake Form and Opsoclonus-Myoclonus Evaluation Scale. The primary end points were reduction in clinical severity relative to baseline (posttreatment total score and percentage improvement in total score). Researchers found that there was a 65% improvement in motor severity score across groups ($p < 0.0001$), but treatment combinations were more effective than corticotropin monotherapy ($p = 0.0009$). Groups 3, 4, and 5 responded better than group 1; groups 3 and 5 responded better than group 2. The response frequency to corticotropin was higher than to prior corticosteroids ($p < 0.0001$). Adverse events (corticosteroid excess) were reported in 55% of children, more so with multi-agents ($p = 0.03$); and 10% of children ($n = 7$) had serious adverse events which were heterogeneous in etiology. Researchers concluded that the study demonstrated the greater efficacy of corticotropin-based multimodal therapy compared with conventional therapy and a greater response to corticotropin than corticosteroid-based therapy.

Cerebrospinal fluid (CSF) adrenocorticotrophic hormone (ACTH) concentration and cortisol were measured in 69 children with opsoclonus-myoclonus syndrome (OMS) and 25 age- and sex matched control subjects to determine endogenous levels and to look for hypothesized differential hormonal effects of ACTH and corticosteroid treatment.¹⁶ To compare high-dose versus low-dose, the ACTH-treated group was divided at the median (32 IU/m²/day) and the steroid group was also divided at the median (1.5 mg/kg/day). In cases of alternate day dosing, the dose was halved as an approximation for comparison with the daily dose group. CSF cortisol was 10-fold higher in the 26 patients receiving ACTH treatment ($p < 0.05$) but was unchanged with oral steroid treatment ($n = 18$) or no treatment ($n = 25$). It was significantly higher (25-fold) in children receiving daily high-dose ACTH than alternate day ACTH. In ACTH-treated children, CSF and serum cortisol were highly correlated ($p = 0.0001$), with a mean ratio of CSF to serum cortisol of approximately 1:10. CSF ACTH concentration did not differ significantly between

untreated OMS and control subjects but was lower with ACTH (-29%) or steroid treatment (-36%), suggesting feedback inhibition of ACTH release ($p < 0.05$). Results indicated that daily high-dose ACTH treatment dramatically raises the concentration of CSF cortisol, but alternate day and low-dose ACTH did not. Researchers conclude that to the extent that cortisol is a factor in clinical response to ACTH therapy, data supports the use of high-dose ACTH protocols in OMS. Additionally, elevated brain cortisol may contribute to the superiority of ACTH treatment over oral corticosteroids in inducing a neurologic remission in OMS.

Unproven

Acthar Gel has additional uses listed in the FDA-label; however, it is not FDA indicated. Purified Cortrophin Gel has other indications listed in the FDA-label; however, the label does not include any clinical evidence proving those indications. Since Acthar Gel and Purified Cortrophin Gel are more costly than an alternative drug that is at least as likely to produce equivalent therapeutic results, UnitedHealthcare has determined that use of Acthar Gel and Purified Cortrophin Gel are unproven and not medically necessary for treatment of the following disorders and diseases:^{1,8-12,18-20, 26}

- Allergic States: Serum sickness, atopic dermatitis
- Collagen Diseases: Systemic lupus erythematosus, systemic dermatomyositis (polymyositis)
- Dermatologic Diseases: Severe erythema multiforme, Stevens-Johnson syndrome, severe psoriasis
- Edematous State: To induce a diuresis or a remission of proteinuria in the nephrotic syndrome without uremia of the idiopathic type or that due to lupus erythematosus
- Ophthalmic Diseases: Severe acute and chronic allergic and inflammatory processes involving the eye and its adnexa such as: keratitis, iritis, iridocyclitis, diffuse posterior uveitis and choroiditis, optic neuritis, chorioretinitis, anterior segment inflammation
- Respiratory Diseases: Symptomatic sarcoidosis
- Rheumatic Disorders: Psoriatic arthritis, rheumatoid arthritis, including juvenile rheumatoid arthritis, ankylosing spondylitis, acute gouty arthritis

Technology Assessments

In October 2014, the National Institute for Health and Care Excellences (NICE) published an updated clinical guideline entitled Management of Multiple Sclerosis (MS) in Primary and Secondary Care (Clinical Guideline 186).²² In this publication, the Guideline Development Group (GDG) noted that some evidence for steroid use comes from older trials that had used ACTH, but that ACTH is no longer used as a treatment option for acute relapse of MS. The GDG considered that steroids are the common accepted treatment for relapse and that delivery is dependent on service organization. In June 2022, NICE published an updated clinical guideline entitled Management of Multiple Sclerosis in Adults: Management. Steroids remain the recommended treatment for acute relapses.

In 2013, an update to the 2000 Cochrane review was published evaluating efficacy and safety of corticosteroids or adrenocorticotrophic hormone (ACTH) in reducing short- and long-term morbidity associated with multiple sclerosis (MS).¹⁴ Authors concluded that:

- The trials evaluated showed that corticosteroids [methylprednisolone (MP)] or ACTH favored recovery from acute exacerbation in MS, which increased the probability of ameliorating the episode within the first five weeks of treatment by more than 60%. Evidence found that corticosteroids, notably MP, are effective in the treatment of acute exacerbation, increasing the probability of ameliorating the episode and speeding up patient recovery.
- There was insufficient evidence to determine if steroids or ACTH treatment prevented new exacerbations and worsening of long-term disability in MS.
- Evidence on the efficacy of different types or schedules of therapies was limited. Indirect comparisons suggest a significantly greater effect of MP versus ACTH.

In 2013, a Cochrane review was published comparing the effects of single drugs used to treat infantile spasms in terms of long-term psychomotor development, spasm control, subsequent epilepsy, and adverse effects.²⁴ Authors concluded that:

- To date, few well-designed randomized controlled trials have considered the treatment of infantile spasms, and the numbers of patients enrolled have been small.
- In the majority, methodology has been poor, hence it is not clear which treatment is optimal in the treatment of this epilepsy syndrome.
- Hormonal treatment resolves spasms in more infants than vigabatrin, but this may or may not translate into better long-term outcomes.

- If prednisolone or vigabatrin is used, high dosage is recommended.
- Vigabatrin may be the treatment of choice in tuberous sclerosis.
- Resolution of the EEG features may be important, but this has not been proven.
- Further research using large studies with robust methodology is required.

In 2010, the Infantile Spasms Working Group (ISWG) developed a consensus of the U.S. approach to the diagnostic evaluation and treatment of infantile spasms.¹⁵ There was strong consensus on the following four conclusions:

- The need for broad clinical evaluation, including detailed clinical neurophysiology was strongly recommended.
- ACTH and vigabatrin are the only drugs with proven effectiveness to suppress clinical spasms and abolish the hypsarrhythmic EEG (a specific EEG pattern found only in this syndrome) in a randomized clinical trial setting and thus remain first line treatments.
- Regardless of the chosen medication, timely assessment of treatment efficacy, i.e., two weeks for ACTH followed by taper (two weeks or less following dose titration for vigabatrin) and, if indicated, prompt treatment modification is strongly recommended as longer treatment trials, i.e., greater than two weeks for ACTH; greater than three months for vigabatrin are not likely to be effective and may come at the expense of serious adverse events.
- Effective treatment for infantile spasms should produce both cessation of spasms and resolution of hypsarrhythmia on EEG and is an all or none “response.”

Professional Societies

In 2015, a Task Force for the ILAE Commission of Pediatrics developed a consensus document addressing diagnostic markers, management interventions, and outcome measures for infants with seizures. For ACTH, the task force concluded that for epileptic spasms, both high and low dose ACTH therapy is probably effective and the task force strongly recommends.²⁵

In 2012, the American Academy of Neurology (AAN) updated their 2004 evidence-based guideline which summarizes the most effective therapies for infantile spasms, their safety, and whether successful treatment of infantile spasms leads to long-term improvement.^{13,21} The recommendations of the AAN and Child Neurology Society (CNS) regarding medical treatment of infantile spasms in children is as follows for adrenocorticotrophic hormone (ACTH):*

- The evidence is insufficient to recommend the use of prednisolone, dexamethasone, and methylprednisolone as being as effective as ACTH for short-term treatment of infantile spasms (Level U).
- Low-dose ACTH should be considered as an alternative to high-dose ACTH for treatment of infantile spasms (Level B).
- ACTH (Level B) or VGB (Level C) may be offered for short-term treatment of infantile spasms. Evidence suggests that ACTH may be offered over VGB (Level C).
- Hormonal therapy (ACTH or prednisolone) may be considered for use in preference to VGB in infants with cryptogenic infantile spasms, to possibly improve developmental outcome (Level C).
- A shorter lag time to treatment of infantile spasms with either hormonal therapy or VGB may be considered to improve long-term cognitive outcomes (Level C).

*AAN Rating of Recommendation:

- Level A: Established as effective, ineffective or harmful for the given condition in the specified population.
- Level B: Probably effective, ineffective, or harmful (or probably useful/predictive or not useful/predictive) for the given condition in the specified population.
- Level C: Possibly effective, ineffective, or harmful (or possibly useful/predictive or not useful/predictive) for the given condition in the specified population.
- Level U: Data inadequate or conflicting. Given current knowledge, treatment is unproven.

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

Acthar Gel is an adrenocorticotrophic hormone (ACTH) analogue indicated as monotherapy for the treatment of infantile spasms in infants and children less than 2 years of age and for the treatment of exacerbations of multiple sclerosis in adults. The FDA labeling suggests that Acthar Gel may be used for the following disorders and diseases: rheumatic; collagen; dermatologic; allergic states; ophthalmic; respiratory; and edematous states, however, it is not FDA indicated for these conditions.¹

Purified Cortrophin Gel is indicated in the following disorders and diseases: rheumatic; collagen; dermatologic; allergic states; ophthalmic; respiratory; edematous states, and nervous system.²⁶

References

1. Acthar Gel [package insert]. Bridgewater, NJ; Mallinckrodt ARD, LLC., June 2023.
2. Corticotropin, ACTH. Clinical Pharmacology powered by ClinicalKey. Elsevier. Accessed January 31, 2024. [Corticotropin, ACTH Monograph - Clinical Pharmacology \(clinicalkey.com\)](#).
3. Corticotropin, Repository. IBM Micromedex. IBM Watson Health. Accessed January 31, 2024.
4. Baram TZ, Mitchell WG, Tournay A, et al. High-dose corticotropin (ACTH) versus prednisone for infantile spasms: a prospective, randomized, blinded study. *Pediatrics* 1996;97:375-379.
5. FDA Acthar gel NDA 22-432 Peripheral and Central Nervous System Drugs Advisory Committee Meeting. Accessed on March 6, 2020.
6. Hrachovy RA, Frost JD, Glaze DG et al. High-dose, long-duration versus low-dose, short duration corticotropin therapy for infantile spasms. *J Pediatr* 1994;124:803-806.
7. Kivity S, Lerman P, Ariel R, et al. Long-term cognitive outcomes of a cohort of children with cryptogenic infantile spasms treated with high-dose adrenocorticotrophic hormone. *Epilepsia*. 2004 Mar;45(3):255-62.
8. Simsarian JP, Saunders C and Smith DM. Five-day regimen of intramuscular or subcutaneous self-administered adrenocorticotrophic hormone gel for acute exacerbations of multiple sclerosis: a prospective, randomized, open-label pilot trial. *Drug Des Devel Ther*. 2011;5:381-9.
9. Thompson AJ, Kennard C, Swash M, et al. Relative efficacy of intravenous methylprednisolone and ACTH in the treatment of acute relapse in MS. *Neurology*. 1989;39:969-971.
10. Barnes MP, Bateman DE, Cleland PG, et al. Intravenous methylprednisolone for multiple sclerosis in relapse. *J Neurol Neurosurg Psych*. 1985;48:157-159.
11. Abbruzzese G, Gandolfo C, Loeb C. "Bolus" methylprednisolone versus ACTH in the treatment of multiple sclerosis. *Ital J Neurol Sci*. 1983 Jun;4(2):169-72.
12. Rose AS, Kuzma JW, Kurtzke JF, et al. Cooperative study in the evaluation of therapy in multiple sclerosis: ACTH vs. placebo-final report. *Neurology*. 1970;20:1-59.
13. M. T. Mackay, S. K. Weiss, T. Adams-Webber, et al. Practice parameter: medical treatment of infantile spasms: report of the American Academy of Neurology and the Child Neurology Society. *Neurology* 2004;62:1668-81.
14. Filippini G, Brusaferrri F, Sibley WA, Citterio A, Ciucci G, Midgard R, Candelise L. Corticosteroids or ACTH for acute exacerbations in multiple sclerosis. Cochrane Database of Systematic Reviews 2000, Issue 4. Art. No.: CD001331.
15. Pellock JM, Hrachovy R, Shinnar S, et al. Infantile spasms: a U.S. consensus report. *Epilepsia*. 2010 Oct;51(10):2175-89.
16. Pranzatelli M, Chun K, Moxness M, Tate E, Allison T. Cerebrospinal fluid ACTH and cortisol in opsoclonus-myoclonus: effect of therapy. *Pediatr Neurol*. 2005;33:121-126.
17. Tate ED, Pranzatelli MR, Verhulst SJ, et al. Active comparator-controlled, rater-blinded study of corticotropin-based immunotherapies for opsoclonus-myoclonus syndrome. *J Child Neurol*. 2012 Jul;27(7):875-84.
18. Bomback AS, Tumlin JA, Baranski J, Bourdeau, et al. Treatment of nephrotic syndrome with adrenocorticotrophic hormone (ACTH) gel. *Drug Des Devel Ther*. 2011;5:147-153.
19. Ponticelli C, Passerini P, Salvadori M, et al. A randomized pilot trial comparing methylprednisolone plus a cytotoxic agent versus synthetic adrenocorticotrophic hormone in idiopathic membranous nephropathy. *Am J Kidney Dis*. 2006 Feb;47(2):233-40.
20. Bomback A, Canetta P, Beck L, et al. Treatment of resistant glomerular diseases with adrenocorticotrophic hormone gel: a prospective trial. *Am J Nephrol*. 2012;36(1):58-67.

21. Go C, Mackay M, Weiss S, et al. Evidence-based guideline update: medical treatment of infantile spasms. Report of the Guideline Development Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society. *Neurology*. 2012 Jun 12;78(24):1974-80.
22. National Clinical Guideline Centre. Multiple sclerosis: management of multiple sclerosis in primary and secondary care. London (UK): National Institute for Health and Care Excellence (NICE); 2014 Oct. 36 p. (Clinical guideline; no. 186).
23. Wanigasinghe J, Arambepola C, Sri Ranganathan S, et al. Randomized, Single-Blind, Parallel Clinical Trial on Efficacy of Oral Prednisolone Versus Intramuscular Corticotropin on Immediate and Continued Spasm Control in West Syndrome. *Pediatr Neurol*. 2015 Sep;53(3):193-9.
24. Hancock EC, Osborne JP, Edwards SW. Treatment of infantile spasms. *Cochrane Database Syst Rev*. 2013; (6):CD001770.
25. Wilmshurst JM, Gaillard WD, Vinayan KP, et al. Summary of recommendations for the management of infantile seizures: Task Force Report for the ILAE Commission of Pediatrics. *Epilepsia*. 2015 Aug;56(8):1185-97.
26. Purified Cortrophin Gel [package insert]. Baudette, MN: ANI Pharmaceuticals, Inc.; October 2023.
27. Multiple sclerosis in adults: management. London: National Institute for Health and Care Excellence (NICE); 2022 Jun 22. (NICE Guideline; no. 220). Available from: <https://www.ncbi.nlm.nih.gov/books/NBK585280/>.

Policy History/Revision Information

Date	Summary of Changes
05/01/2024	<p>Supporting Information</p> <ul style="list-style-type: none"> • Updated <i>Clinical Evidence</i> and <i>References</i> sections to reflect the most current information • Archived previous policy version CSPA2023D0037P

Instructions for Use

This Medical Benefit Drug Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the federal, state or contractual requirements for benefit plan coverage must be referenced as the terms of the federal, state or contractual requirements for benefit plan coverage may differ from the standard benefit plan. In the event of a conflict, the federal, state or contractual requirements for benefit plan coverage govern. Before using this policy, please check the federal, state or contractual requirements for benefit plan coverage. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Benefit Drug Policy is provided for informational purposes. It does not constitute medical advice.

UnitedHealthcare may also use tools developed by third parties, such as the InterQual® criteria, to assist us in administering health benefits. The UnitedHealthcare Medical Benefit Drug Policies are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.