

Molina Clinical Policy

Scenesse (afamelanotide) Implant: Policy No. 367

Last Approval: 4/13/2022
Next Review Due By: April 2023



DISCLAIMER

This Molina Clinical Policy (MCP) is intended to facilitate the Utilization Management process. Policies are not a supplementation or recommendation for treatment; Providers are solely responsible for the diagnosis, treatment and clinical recommendations for the Member. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (e.g., will be paid for by Molina) for a particular Member. The Member's benefit plan determines coverage – each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their Providers will need to consult the Member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a Member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid Members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this MCP and provide the directive for all Medicare members. References included were accurate at the time of policy approval and publication.

OVERVIEW

Erythropoietic Protoporphria (EPP) and X-linked protoporphyria (XLPP), are inherited cutaneous porphyrias characterized clinically by acute non-blistering photosensitivity, intolerance to sunlight, and significantly reduced quality of life. EPP is characterized by a deficiency of the ferrochelatase (FECH) enzyme in the heme biosynthetic pathway, leading to the accumulation of protoporphyrin IX (PPIX), a light-sensitive molecule, in erythrocytes. The deficiency of the FECH enzyme results in severe, painful cutaneous photosensitivity and incapacitating burning sensations in the skin during or after exposure to sunlight, especially outdoors even with some forms of artificial light and an overcast (Balwani 2017; Balwani 2019; Langendonk 2015). In XLPP, the genetic defect is a gain-of-function mutation, usually a four-base deletion, in the gene that encodes the enzyme 5-aminolevulinic acid synthase-2, the first and rate-controlling enzyme of heme synthesis in developing red blood cells. The excess PP causes acute and painful photosensitivity, being activated by light in the long ultraviolet to blue spectrum. Clinical features include burning, tingling, and itching within 30 minutes of sun exposure, followed later by erythema and swelling. Symptoms, which appear out of proportion to the visible skin lesions, may persist for hours or days after the initial phototoxic reaction. The burning, itching, and intense pain may occur without obvious skin damage, and blisters or bullae are generally absent or sparse (Balwani 2017). EPP may also have complications related to liver and gallbladder function. An estimated 20%-30% of patients with EPP have some degree of liver dysfunction (i.e., mild with slight elevations of the liver enzymes) and up to 5% may develop a more advanced liver disease, which may be accompanied by motor neuropathy similar to that seen in the acute porphyrias. In rare cases, affected individuals may also develop liver damage may lead to liver failure requiring transplantation. Diagnosis is based on symptoms and increased levels of protoporphyrin in red blood cells and plasma. The gold standard test for the diagnosis of EPP is biochemical analysis interpreted in the context of clinical features. The condition typically manifests in infancy or early childhood after sun exposure with acute, painful photosensitivity; however, in some cases, onset may not occur until adolescence or adulthood. It is the third most common porphyria in children with an estimated prevalence of 1 in 74,300 individuals with males and females equally affected (American Porphyria Foundation).

There is a lack of effective therapeutic options for treating EPP. Cutaneous symptom management has been mainly focused strict light avoidance (e.g., the use of sun protective clothing, window tinting or films for the vehicle or house) (Balwani 2017). The consequences of long-term light avoidance on physical and psychological wellbeing are not fully understood, but is linked to anxiety, social isolation, and poor quality of life. Other treatments for EPP are symptomatic and supportive. Sunscreens containing physical reflecting agents (e.g., zinc oxide, titanium dioxide) or tanning creams that increase skin pigmentation (e.g., creams containing dihydroxyacetone) may help to some patients. Oral beta-carotene, a high potency form of oral beta-carotene, has been used to improve affected tolerance of sunlight but there is no data to support this treatment. Vitamin D supplements are recommended as EPP patients are likely to have low vitamin D levels from avoiding sunlight. Patients with liver failure may require liver transplantation; however, liver transplantation is not curative since the predominant source of excess protoporphyrin production is the bone marrow.

Scenesse (afamelanotide) is indicated to increase pain-free light exposure in adult patients with a history of phototoxic reactions from EPP. Prior to the FDA approval of Scenesse, there were no FDA-approved treatments for EPP to increase light exposure. Afamelanotide is a symptomatic treatment for EPP, PPIX levels remain the same and it is unlikely to protect against PPIX-mediated liver damage; however, therapy may provide an improvement in

Molina Clinical Policy

Scenesse (afamelanotide) Implant: Policy No. 367

Last Approval: 4/13/2022

Next Review Due By: April 2023



increasing light exposure. Afamelanotide is a synthetic analog of α -melanocyte stimulating hormone. Afamelanotide mimics the naturally occurring hormone to increase skin pigmentation by increasing melanin production in melanocytes, resulting in increased sunlight tolerance in those with EPP/XLPP. Afamelanotide is a melanocortin-1 receptor agonist and acts by directly stimulating melanocytes to produce eumelanin, which pigments the epidermis and therefore protects against phototoxic reactions caused by light. One implant is administered every 2 months prior to expected and during increased sunlight exposure (e.g., from spring to early autumn). The efficacy and safety of Scenesse was established in two Phase 3 studies in the United States and European Union (Study CUV039, NCT 01605136, and Study CUV029, NCT 00979745).

COVERAGE POLICY

Scenesse (afamelanotide) for the treatment of EPP **may be considered medically necessary** when **ALL** of the following clinical criteria are met:

1. Definitive diagnosis of EPP or X-linked protoporphyria (known as XLP or XLEPP) confirmed by genetic testing **AND** Gene sequencing shows an FECH, CLPX, or ALAS2 mutation; **AND**
2. Biochemical finding of a marked increase of EPP (e.g., elevated free protoporphyrin in peripheral erythrocytes) confirmed by **ONE** of the following tests:
 - a. Elevated total erythrocyte protoporphyrin (e.g., 300 to 8,000 mcg/dL); **OR**
Informational Note: Normal ranges up to 80 mcg/dL^{Mittal S}
 - b. Elevated Erythrocyte fractionation shows $\geq 50\%$ metal-free vs. zinc protoporphyrin
Informational Note: Generally, metal-free protoporphyrin represents > 85% of total porphyrin in EPP and 50-85% of total porphyrins in XLP.^{Mittal S 2019}
3. Evidence of EPP/XLP-associated acute non-blistering cutaneous reactions (e.g., pain, stinging, redness, swelling, blanching) following exposure to sun; **AND**
4. Documentation of **ALL** the following required.
May include chart notes from the member's medical records, relevant labs and/or tests, and other relevant clinical information:
 - a. Sun avoidance and use of sunscreen, protective clothing, and pain medication have proven inadequate in controlling EPP-associated painful skin reactions; **AND**
 - b. Member will continue to maintain sun and light protection measures during treatment to prevent phototoxic reactions; **AND**
 - c. Member does not have any malignant or premalignant skin lesions (e.g., melanoma, dysplastic nevus syndrome, Bowen's disease, basal cell or squamous cell carcinomas, etc.) as evidenced by a baseline full body skin examination for pre-existing skin lesions.

AND

5. Prescriber agrees to submit documentation of full-body skin examination twice annually to monitor pre-existing and new skin pigmentary lesions.

NOTE: Subsequent authorizations require full skin examination. Clinical documentation must be submitted for initial request and for continuation of treatment requests.

CONTINUATION OF THERAPY

Member meets **ALL** of the following criteria for re-treatment. Clinical documentation required.

1. Member has met initial criteria for Scenesse therapy; **AND**
2. Scenesse therapy may be re-authorized when stabilization of disease, or absence of disease progression is documented by at least **ONE** of the following:
 - a. Decreased severity and number of phototoxic reactions; **OR**
 - b. An increase in pain-free time during light exposure; **OR**

Molina Clinical Policy Scenesse (afamelanotide) Implant: Policy No. 367

Last Approval: 4/13/2022
Next Review Due By: April 2023



- c. Improvement in acute non-blistering cutaneous reactions (e.g., pain, stinging, redness, swelling, blanching) following exposure to sun; **OR**
- d. Improvement on a pain-intensity Likert scale or QOL questionnaire

AND

3. Continuous adherence to therapy as verified by member's claim history (review member's prescription claims history for compliance). Any indicator of compliance or adherence issues should be discussed with discussed among treating physician, Member, and Medical Director for a treatment plan or discontinuation of treatment;

AND

4. Member has received a full skin examination by the Prescriber/Dermatologist within the last six months to monitor pre-existing and new skin pigmentary lesions.

NOTE: Clinical documentation must be submitted with every continuation of treatment request.

AND

5. Member has not experienced unacceptable toxicity, significant non-anaphylactic reaction(s), or anaphylaxis from Scenesse Implant therapy.

LIMITATIONS AND EXCLUSIONS

The following are considered **contraindications/exclusions** based on insufficient evidence:

1. Hypersensitivity to Scenesse or its inactive ingredient (e.g., poly [DL-lactide-co-glycolide] bioresorbable copolymer).
2. Any of the following conditions:
 - a. EPP with significant hepatic involvement; **OR**
Hepatic dysfunction may occur in 20% to 30% of patients with EPP. Pivotal trials do not include patients clinically significant hepatic or another organ dysfunction
 - b. Current Bowen's disease, basal cell carcinoma, squamous cell carcinoma, or other malignant or premalignant skin lesions; **OR**
 - c. Any other photodermatosis such as polymorphic light eruption, actinic prurigo, discoid lupus erythematosus, chronic actinic dermatitis or solar urticaria

The following are considered **experimental, investigational and unproven** based on insufficient evidence:

1. Any indications other than those listed above

DURATION OF APPROVAL

Initial authorization: **6 months**; Continuation of treatment: Re-authorization is required every **6 months** to determine continued need based on member meeting 'Continuation of Therapy' criteria.

PRESCRIBER REQUIREMENTS: Prescribed and administered by a dermatologist or a specialist with expertise in the diagnosis and management of EPP

AGE RESTRICTIONS: 18 years of age or older

The safety and effectiveness have not been established in pediatric patients

DOSING CONSIDERATIONS: The recommended dose is a single implant (16 mg) inserted every 2 months by a health care professional

MONITORING PARAMETERS: Full body skin examination (twice yearly) per approved labeling

Molina Clinical Policy

Scenesse (afamelanotide) Implant: Policy No. 367

Last Approval: 4/13/2022
Next Review Due By: April 2023



QUANTITY LIMITATIONS

1. ONE implant every 2 months
2. THREE implants per year for seasonal coverage (most likely during spring and summer) is recommended. The recommended maximum number of implants is FOUR per year.^{NICE, EMA}

EXCEPTIONS: For requests beyond THREE implants a year: Medical justification is required; Prescriber submit all relevant supporting documentation for clinical staff review.

ADMINISTRATION

1. Administration by a health care professional who is proficient in the subcutaneous implantation procedure and has completed the training program provided by the manufacturer (Clinuvel)

Informational Note: The afamelanotide implant should be inserted using an SFM Implantation Cannula or other implantation devices that have been determined by the manufacturer to be suitable for implantation of Scenesse. Refer to the Prescribing Information for specific implantation instructions. Contact Clinuvel Inc. for other implantation devices that have been determined by the manufacturer to be suitable for implantation of Scenesse.

2. Refer to MHI Policy & Procedure (P&P) *Specialty Medication Administration Site of Care Policy: MHI Pharm 11.*

NOTE: Authorization is generally for administration in physician office setting only. Routine administration in a hospital or outpatient setting will not be authorized.

DOCUMENTATION REQUIREMENTS. Molina Healthcare reserves the right to require that additional documentation be made available as part of its coverage determination; quality improvement; and fraud; waste and abuse prevention processes. Documentation required may include, but is not limited to, patient records, test results and credentials of the provider ordering or performing a drug or service. Molina Healthcare may deny reimbursement or take additional appropriate action if the documentation provided does not support the initial determination that the drugs or services were medically necessary, not investigational or experimental, and otherwise within the scope of benefits afforded to the member, and/or the documentation demonstrates a pattern of billing or other practice that is inappropriate or excessive.

DRUG INFORMATION

ROUTE OF ADMINISTRATION: Subcutaneous Implantation

DRUG CLASS: Alpha-Melanocyte Stimulating Hormone Analog, Synthetic

FDA-APPROVED USES: Erythropoietic Protoporphyrin (EPP)

To increase pain free light exposure in adult patients with a history of phototoxic reactions from EPP

COMPENDIAL APPROVED OFF-LABELED USES: None

SUMMARY OF MEDICAL EVIDENCE

Langendonk et al. (2015) conducted two Phase 3 multicenter, randomized, double-blind, placebo-controlled trials to evaluate the safety and effectiveness of afamelanotide in treating photosensitivity in patients with EPP. The two parallel group clinical trials were conducted in the European Union (EU) (n=74) and the United States (US) (n=94). and was the basis for FDA approval. Adults with EPP were randomly assigned 1:1 to receive either Scenesse 16 mg or a placebo form of the implant subcutaneously every 60 days. The US trial participants who received a total of 3 implants over 6 months, and the EU trial received a total of 5 implants for 9 months. Both trials measured the number of hours the patient was able to spend in direct sunlight with no pain. The primary efficacy endpoint was the duration of pain-free direct exposure to sunlight (10 am to 3 pm in the EU trial vs. 10 am to 6 pm in the US trial). In the U.S. trial, there was a greater number of hours in the day in which sunlight tolerance was assessed and most of the study period occurred during the summer months. The primary outcome assessed in the U.S. trial was in direct sunlight vs. sunlight and shade in the EU trial. The type and duration of sun exposure, number and severity of phototoxic reactions, and adverse events were recorded over the study period. Differences between the trials included the number of study drug doses administered (3 doses vs. 5 doses), trial duration (6 months vs. 9 months), and time windows within a day in which time spent outdoors was recorded (10 am to 3 pm in the EU trial and 10 am to 6 pm in the US trial).

Molina Clinical Policy
Scenesse (afamelanotide) Implant: Policy No. 367

Last Approval: 4/13/2022
 Next Review Due By: April 2023



Source	Trial	Location, Duration, # Enrolled	Primary Outcome(s)
Langendonk 2015 (NCT00979745)	CUV029	<u>European Trial</u> 9 months (5 doses) 5 implants then followed for 270 days N=74 [Scenesse 16mg (n=38); placebo (n=36)]	Time (hours) in light with no pain between 10:00 to 15:00/person/study period
Langendonk 2015 (NCT01605136)	CUV039	<u>United States Trial</u> 6 months (3 doses) 3 implants then followed for 180 days N=94 [Scenesse 16mg (n=48); placebo (n=45)]	Time (hours) in light with no pain between 10:00 and 18:00/person/study period

Participants were mostly Caucasian (98%), the mean age was 40 years (range 18 to 74 years), and 53% of subjects were male and 47% were female. Pain was rated on an 11-point Likert pain-intensity scale (with scores ranging from 0 to 10; higher scores indicating greater severity of symptoms).

- EU trial: Five implants were administered to 74 patients (N= 74) over 9 months; 38 (n=38) received afamelanotide and 36 participants (n=36) received placebo. The median duration of pain-free time after 9 months was 6 hours with afamelanotide and 0.8 hours with placebo. The total number of phototoxic reactions after 9 months was significantly lower with afamelanotide in study 2 (77 vs. 146 reactions). Sun exposure on days for which subjects reported spending time in a combination of both direct sunlight and shade was not recorded in this analysis.
- U.S. trial: Three implants were administered to 93 subjects over 6 months; 48 (n=48) received afamelanotide and 45 (n=45) received a placebo subcutaneously every 2 months. The median total number of hours over 180 days spent in direct sunlight between 10 am and 6 pm on days without pain was 69.4 hours for the Scenesse group versus 41 hours for the placebo. The pain-free time in direct sunlight after 6 months was 70% longer in patients who received afamelanotide compared with those who received placebo (median, 69.4 hours vs 40.8 hours).

The results of both trials showed significant improvement in primary endpoint and no significant adverse events. Scenesse was superior to placebo in increasing the duration of time patients spent directly exposed to sunlight without pain. Photosensitivity and improvement in sunlight tolerance was noted in the treatment groups compared to the placebo group. The duration of pain-free time was longer in the afamelanotide group in both trials: median duration of 69.4 hours vs. 40.8 hours in the placebo group in the U.S. trial over a 6-month period, and the median duration of pain-free time was longer over a 9-month period in the afamelanotide group compared to placebo (6.0 hours vs. 0.75 hours) in the EU trial. The number of phototoxic reactions was also lower in the afamelanotide group (77 vs. 146) in the EU study. Limitations noted were the subjective nature of patient’s pain assessments, partial unblinding of patients due to increased skin pigmentation in patients who received Scenesse, and sun exposure avoidance due to fear of painful reactions in patients in both groups who did not develop increased pigmentation. Overall, afamelanotide was associated with increased duration of sun exposure without pain, less severe phototoxic reactions, faster phototoxic reaction recovery time, and improved quality of life.

Afamelanotide was generally well-tolerated in clinical trials. The majority of adverse events were mild to moderate in severity, with the most common being headache, nausea, nasopharyngitis, and back pain.

Post-marketing requirements by the FDA indicate a thorough QT clinical study and an observational cohort study assessing long-term safety, particularly related to rates of skin cancer, implant-site reactions, changes in pigmentary expressions, pregnancy outcomes, effects on lactation and breastfeeding infants, and implantation device malfunction or failure (Beitz JG; NDA approval letter).

National and Specialty Organizations. There are no current treatment guidelines for the management of EPP.

Molina Clinical Policy

Scenesse (afamelanotide) Implant: Policy No. 367

Last Approval: 4/13/2022
Next Review Due By: April 2023



SUPPLEMENTAL INFORMATION

Porphyria diseases are a group of metabolic disorders caused by abnormal functioning of heme biosynthesis enzymes and characterized by the excessive accumulation and excretion of porphyrins and their precursors. The porphyrias are characterized by abnormally high levels of porphyrins in the body due to deficiencies of certain enzymes essential to the synthesis of hemoglobin. There are at least eight types of porphyria and symptoms associated with the various types of porphyria differ, depending upon the specific enzyme that is deficient. Individuals who have one type of porphyria commonly do not develop the other types. ([NORD 2021](#))

CODING & BILLING INFORMATION

CPT Codes – N/A

HCPCS Code

HCPCS	Description
J7352	Afamelanotide implant, 1 mg

AVAILABLE DOSAGE FORMS: Subcutaneous implant containing 16 mg of afamelanotide
Implant is a bioresorbable sterile rod measuring approximately 1.7 cm in length and 1.45 mm in diameter. Supplied in a sealed glass vial packaged individually in a cardboard box; not supplied with an implantation device.

CODING DISCLAIMER. Codes listed in this policy are for reference purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement. Listing of a service or device code in this policy does not guarantee coverage. Coverage is determined by the benefit document. Molina adheres to Current Procedural Terminology (CPT®), a registered trademark of the American Medical Association (AMA). All CPT codes and descriptions are copyrighted by the AMA; this information is included for informational purposes only. Providers and facilities are expected to utilize industry standard coding practices for all submissions. When improper billing and coding is not followed, Molina has the right to reject/deny the claim and recover claim payment(s). Due to changing industry practices, Molina reserves the right to revise this policy as needed.

APPROVAL HISTORY

- 4/13/2022 MCPC** Policy reviewed and updated; no changes in coverage criteria; updated references section.
- 9/2021 MCPC** Policy reviewed and updated. No changes in coverage criteria. Updated references. Clarifications in verbiage include:
- Updated prescriber specialty criterion from: Prescribed and administered by a dermatologist or a specialist *in the treatment of porphyria who has completed training for Scenesse administration*, TO: Prescribed and administered by a dermatologist or a specialist *with expertise in the diagnosis and management of EPP*
 - Removal of 'Prescriber must agree that the member will be monitored by a health care provider for at least 30 minutes after the implant administration' since this is addressed by the criterion in the administration section ('Administration by a health care professional who is proficient in the subcutaneous implantation procedure and has completed the training program provided by the manufacturer')
- Q2 2020 P&T** New policy. IRO Specialist Peer Review: 4/12/2020. Practicing Physician. Board certified in Dermatology.

REFERENCES

Government Agencies

1. Centers for Medicare and Medicaid Services (CMS). Medicare coverage database (search: Scenesse; afamelanotide; Erythropoietic Protoporphyrin). No NCD identified. Available from [CMS](#). Accessed March 2022.
2. ClinicalTrials.gov. National Library of Medicine; 2000 Feb 29 - [cited February 2019]. Available from [ClinicalTrials.gov](#).
 - Phase III confirmatory study in Erythropoietic Protoporphyrin (EPP). ClinicalTrials.gov Identifier: NCT00979745. Published August 4, 2011. Available from [ClinicalTrials.gov](#). Updated October 12, 2021. Accessed on February 2022.
 - Phase III confirmatory study in Erythropoietic Protoporphyrin. ClinicalTrials.gov Identifier: NCT01605136. Published September 19, 2019. Available from [ClinicalTrials.gov](#). Updated September 19, 2019. Accessed February 2022.
 - Multicenter phase III erythropoietic protoporphyria study. ClinicalTrials.gov Identifier: NCT04053270. Available from [ClinicalTrials.gov](#). Updated October 10, 2019. Accessed February 2022.
3. European Medicines Agency. Summary of product characteristics. Available from [EMA](#). Published 2019. Accessed February 2022.
4. United States Food and Drug Administration (FDA).
 - FDA news release: FDA approves first treatment to increase pain-free light exposure in patients with a rare disorder. Available from [FDA](#). Published October 8, 2019.
 - Beitz JG. NDA approval letter: Scenesse (afamelanotide) (NDA 210797). Available from [FDA](#). Published October 8, 2019.

Molina Clinical Policy

Scenesse (afamelanotide) Implant: Policy No. 367

Last Approval: 4/13/2022

Next Review Due By: April 2023



Prescribing Information and Drug Compendia

1. Scenesse (afamelanotide) [prescribing information]. West Menlo Park, CA: Clinuvel Inc; October 2019.
2. Clinuvel Pharmaceuticals Limited
 - Clinuvel reports positive results in phase III porphyria (EPP) clinical trial [news release]. Available at: [LINK](#) Published July 13, 2010. Accessed Mar 2021
3. American Society of Health-System Pharmacists. AHFS Drug Information® - 2022nd Ed. Bethesda, MD. American Society of Health-System Pharmacists®. ISBN-10: 1-58528-684-2, ISBN-13: 978-1-58528-684-3. ISSN: 8756-6028. STAT!Ref Online Electronic Medical Library. Available [here](#). Accessed February 28, 2022. Registration and login required.
4. Clinical Pharmacology powered by ClinicalKey. Tampa (FL): Elsevier. 2021. Available from [ClinicalKey](#). Accessed February 2022. Registration and login required.
5. Drug Facts and Comparisons. Facts and comparisons eAnswers [online]. Available from Wolters Kluwer Health, Inc. Accessed February 2022. Registration and login required.

Peer Reviewed Publications

1. Balwani M, Bloomer J, Desnick R, Porphyrins Consortium of the NIH-Sponsored Rare Diseases Clinical Research Network. Erythropoietic protoporphyria, autosomal recessive. Published September 27, 2012. Updated September 7, 2017. In: Adam MP, et al., editors. GeneReviews [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2022. Available [NIH](#). Accessed February 2022.
2. Balwani M. Erythropoietic Protoporphyria and X-Linked protoporphyria: Pathophysiology, genetics, clinical manifestations, and management. Mol Genet Metab. 2019;128(3):298-303. Available from [NIH](#). Accessed February 2022.
3. Langendonk JG, Balwani M, Anderson KE, et al. Afamelanotide for Erythropoietic Protoporphyria. N Engl J Med. 2015 Jul 2;373(1):48-59. doi: 10.1056/NEJMoa1411481.
4. Langendonk JG, Balwani M, Anderson KE, et al. Afamelanotide for erythropoietic protoporphyria. N Engl J Med. 2015;373(1):48-59. doi:10.1056/NEJMoa1411481.

National and Specialty Organizations

1. American Porphyria Foundation. Available [here](#). Accessed February 2022.
2. Genetic and Rare Diseases Information Center (GARD). National Center for Advancing Translational Sciences. Gaithersburg, MD. Available [here](#). Accessed February 2022.
3. National Organization for Rare Disorders (NORD). Rare disease database: Erythropoietic protoporphyria and X-linked protoporphyria. Available [here](#). Updated 2018. Accessed February 2022.

Other Peer Reviewed and Professional Organization Publications (used in the development of this policy but not cited)

1. Biolcati G, Deybach JC, Hanneken S, et al. A randomized phase III trial of afamelanotide (Scenesse), an agonistic α -melanocyte stimulating hormone analogue in the treatment of protoporphyria-induced phototoxicity [abstract]. Br J Dermatol. 2011;164(5):1143.
2. Biolcati G, Marchesini E, Sorge F, Barbieri L, Schneider-Yin X, Minder EI. Long-term observational study of afamelanotide in 115 patients with erythropoietic protoporphyria. Br J Dermatol. 2015;172(6):1601-1612.
3. Kim ES, Garnock-Jones KP. Afamelanotide: A review in erythropoietic protoporphyria. Am J Clin Dermatol. 2016 Apr;17(2):179-85. doi: 10.1007/s40257-016-0184-6.
4. Mittal S, Anderson KE. Erythropoietic protoporphyria and X-linked protoporphyria. Available from [UpToDate](#). Updated January 11, 2022. Accessed February 2022. Registration and login required.
5. National Institute for Health and Care Excellence (NICE). Final evaluation document: Afamelanotide for treating erythropoietic protoporphyria [ID927]. Published May 2018. In development [GID-HST10009]. Available from [NICE](#).
In 2018, NICE recommended against the funding of afamelanotide in the National Health Service, indicating that clinical trial results suggested small benefits of the therapy [available [here](#)] Topic update: this evaluation has not been defined as therapeutically critical. The appraisal will therefore be paused. At this stage, we are unable to provide alternative timelines as to when the appraisal may be re-started but we will provide an update when this information is available.

APPENDIX

Reserved for State specific information. Information includes, but is not limited to, State contract language, Medicaid criteria and other mandated criteria.