Original Effective Date: 07/28/2021
Current Effective Date: 09/20/2023
Last P&T Approval/Version: 07/26/2023
Next Review Due By: 07/2024
Policy Number: C21306-A

Nulibry (fosdenopterin)

PRODUCTS AFFECTED

Nulibry (fosdenopterin)

COVERAGE POLICY

Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.
This Coverage Guideline provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide Molina Healthcare complete medical rationale when requesting any exceptions to these guidelines.

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.

DIAGNOSIS:
Molybdenum Cofactor Deficiency (MoCD) Type A

REQUIRED MEDICAL INFORMATION:
This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. If a drug within this policy receives an updated FDA label within the last 180 days, medical necessity for the member will be reviewed using the updated FDA label information along with state and federal requirements, benefit being administered and formulary preferencing. Coverage will be determined on a case-by case basis until the criteria can be updated through Molina Healthcare, Inc. clinical governance. Additional information may be required on a case-by-case basis to allow for adequate review. When the requested drug product for coverage is dosed by weight, body surface area or other member specific measurement, this data element is required as part of the medical necessity review.

A. MOLYBDENUM COFACTOR DEFICIENCY (MoCD) TYPE A:
1. Documentation of a presumptive diagnosis or a diagnosis of MoCD Type A as evidenced by one of the following [DOCUMENTATION REQUIRED]:
    a) Genetic testing confirming diagnosis of MoCD Type A
    OR
    b) Onset of clinical symptoms within 28 days of birth (seizures, exaggerated startle

response, high-pitched cry, axial hypotonia, limb hypertonia, feeding difficulties)
AND laboratory signs consistent with diagnosis (elevated urinary sulfite, S- sulfocysteine, xanthine, and hypoxanthine, and low levels of uric acid in the blood and urine)

AND

2. Documentation of member's current weight (in kilograms), gestational age (for members under 1 year), and prescribed dose
AND
3. Clinical progress notes assessing member's condition and physical function to establish a baseline for follow-up assessments which may include (not an all-inclusive list): neurological function, gross motor function, and baseline biomarkers (urinary sulfite or S-sulfocysteine level)

CONTINUATION OF THERAPY:

A. MOLYBDENUM COFACTOR DEFICIENCY (MoCD) TYPE A:
1. Prescriber attests to or clinical reviewer has found no evidence of intolerable adverse effects or drug toxicity
AND
2. Documentation of positive clinical response as demonstrated improvements in the condition's signs and symptoms: improvement in baseline biomarkers, improvement in neurological function, improvement in gross motor function, or achievement of developmental milestones
AND
3. Genetic confirmation of diagnosis of MoCD Type A if initial authorization was based on presumptive diagnosis [DOCUMENTATION REQUIRED]
NOTE: Nulibry should be discontinued if MoCD Type A is not confirmed by genetic testing.

DURATION OF APPROVAL:

Initial authorization: 3 months (presumptive diagnosis), 12 months (genetic testing confirmed diagnosis)
Continuation of Therapy: 12 months

PRESCRIBER REQUIREMENTS:

Prescribed by or in consultation with a board-certified neonatologist or geneticist
[If prescribed in consultation, consultation notes must be submitted with initial request and reauthorization requests].

AGE RESTRICTIONS:

None

QUANTITY:

Preterm Neonates (Gestational Age Less than 37 weeks) less than 1 year of age:
Initial Dose: 0.4 mg/kg daily; 1 month- less than 3 months: 0.7 mg/kg daily; Month 3: 0.9 mg/kg daily

Term Neonates (Gestational Age 37 weeks or greater) less than 1 year of age:
Initial Dose: 0.55 mg/kg daily; 1 month- less than 3 months: 0.75 mg/kg daily; Month 3: 0.9 mg/kg daily

One year of age or greater:
0.9 mg/kg daily

Maximum Quantity Limits – 0.9 mg/kg daily (based on actual body weight)

PLACE OF ADMINISTRATION:

The recommendation is that infused medications in this policy will be for pharmacy or medical benefit coverage administered in a place of service that is a non-inpatient hospital facility-based location.

DRUG INFORMATION

ROUTE OF ADMINISTRATION:
Intravenous

DRUG CLASS:
Molybdenum Cofactor Deficiency (MoCD) – Agents

FDA-APPROVED USES:
Indicated to reduce the risk of mortality in patients with molybdenum cofactor deficiency (MoCD) Type A.

COMPENDIAL APPROVED OFF-LABELED USES:
None

APPENDIX

APPENDIX:

NULIBRY (fosdenopterin) recommended dosing for members less than one year of age:

Titration Schedule	Preterm Neonates (Gestational Age Less than 37 weeks	Term Neonates (Gestational Age 37 weeks and Above)
Inicial Dosage	0.4 mg/kg once daily	0.55 mg/kg once daily
Month 1	0.7 mg/kg once daily	0.75 mg/kg once daily
Month 3	0.9 mg/kg once daily	0.9 mg/kg once daily

BACKGROUND AND OTHER CONSIDERATIONS

BACKGROUND:
Molybdenum cofactor deficiency (MoCD) is an inherited metabolic disorder. MoCD is an autosomal recessive disorder which is characterized by neonatal onset of intractable seizure, severe psychomotor retardation, dislocated ocular lenses, and dysmorphic facies (2). MoCD is a deficiency in three molybdenum-dependent enzymes: Sulfite oxidase (SOX), xanthine dehydrogenase, and aldehyde oxidase. The SOX enzyme loss results in the severe and rapidly progressive neurological damage due to the accumulation of sulfite (3). Sulfite accumulation in the brain is responsible for neuronal damage. Type A MoCD is caused by a mutation in the MOSC 1 gene localized on 6p21.3. At least thirty-two mutations of MOSC1 have been identified. Mutations in the MOSC1 gene results in a deficiency in MOSC1A/B dependent synthesis of cyclic pyranopterin monophosphate (cPMP). Nulibry provides cPMP exogenously ultimately reducing levels of neurotoxic sulfites. MoCD Type A has a median survival age of 4 years. MoCD is designated as an ultra-rare disease.

CONTRAINDICATIONS/EXCLUSIONS/DISCONTINUATION:
All other uses of NULIBRY (fosdenopterin) are considered experimental/investigational and therefore, will follow Molina's Off- Label policy. Contraindications to NULIBRY (fosdenopterin) include: No labeled contraindications.

OTHER SPECIAL CONSIDERATIONS:
NULIBRY (fosdenopterin) is administered as an intravenous infusion once daily with non-DEHP tubing with a 0.2-micron filter. Volumes below 2 mL may require syringe administration through slow intravenous push.

CODING/BILLING INFORMATION

Note: 1) This list of codes may not be all-inclusive. 2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement

HCPCS CODE	DESCRIPTION
J3490	Unclassified drugs

AVAILABLE DOSAGE FORMS:
Nulibry SOLR 9.5mg single-dose vial

REFERENCES

1. NULIBRY (fosdenopterin) [prescribing information]. Origin Biosciences, Inc., Boston, MA; October 2022.
2. Nagappa M, Bindu PS, Taly AB, Sinha S, Bharath RD. Child Neurology: Molybdenum cofactor deficiency. Neurology. 2015 Dec 8;85(23):e175-8. doi: 10.1212/WNL.0000000000002194. PMID: 26644055.
3. Mechler, K., Mountford, W. K., Hoffmann, G. F., & Ries, M. (2015). Ultra-orphan diseases: a quantitative analysis of the natural history of molybdenum cofactor deficiency. Genetics in medicine: official journal of the American College of Medical Genetics, 17(12), 965–970. https://doi.org/10.1038/gim.2015.12 ClinicalTrials.gov Identifier: NCT02629393
4. Wilcken B. Treatments for rare diseases: molybdenum cofactor deficiency. Lancet. 2015;386(10007): 1924. doi:10.1016/S0140-6736(15)00125-7
5. Atwal P, et al. Molybdenum cofactor deficiency. Mol Genet Metab. 2016;117:1-4. doi: 10.1016/j.ymgme.2015.11.010
6. Schwahn BC, et al. Efficacy and safety of cyclic pyranopterin monophosphate substitution in severe molybdenum cofactor deficiency type A: a prospective cohort study. Lancet. 2015;386:1955-63. doi:10.1016/S0140-6736(15)00124-5

SUMMARY OF REVIEW/REVISIONS	DATE
REVISION- Notable revisions: Continuation of Therapy Available Dosage Forms References	Q3 2023
REVISION- Notable revisions: Required medical Information Continuation of Therapy Contraindications/Exclusions/Discontinuation Coding/Billing Information	Q3 2022
Q2 2022 Established tracking in new format	Historical changes on file