

SPECIALTY GUIDELINE MANAGEMENT

LIVMARLI (maralixibat)

POLICY

I. INDICATIONS

The indications below including FDA-approved indications and compendial uses are considered a covered benefit provided that all the approval criteria are met and the member has no exclusions to the prescribed therapy.

FDA-Approved Indications

- A. Treatment of cholestatic pruritus in patients 3 months of age and older with Alagille syndrome (ALGS).
- B. Treatment of cholestatic pruritus in patients 12 months of age and older with progressive familial intrahepatic cholestasis (PFIC).

Limitations of Use: Livmarli is not recommended in a subgroup of PFIC type 2 patients with specific ABCB11 variants resulting in non-functional or complete absence of bile salt export pump (BSEP) protein.

All other indications are considered experimental/investigational and not medically necessary.

II. DOCUMENTATION

Submission of the following information is necessary to initiate the prior authorization review:

- A. Initial requests: Genetic testing results confirming a diagnosis of Alagille syndrome (ALGS) or progressive familial intrahepatic cholestasis (PFIC), if applicable.
- B. Continuation requests: Chart notes or medical record documentation showing benefit from therapy (e.g., improvement in pruritus).

III. EXCLUSIONS

Coverage will not be provided for members who have PFIC type 2 with variants in the ABCB11 gene resulting in non-functional or complete absence of the bile salt export pump (BSEP) protein.

IV. PRESCRIBER SPECIALTIES

This medication must be prescribed by or in consultation with a hepatologist or gastroenterologist.

V. CRITERIA FOR INITIAL APPROVAL

A. Cholestatic pruritus in Alagille syndrome (ALGS)

Authorization of 6 months may be granted for treatment of cholestatic pruritus in Alagille syndrome (ALGS) when all of the following criteria are met:

- 1. Member has a diagnosis of ALGS established by one of the following (see Appendix for major clinical features of ALGS):
 - i. Genetic testing (e.g., mutations in *JAG1*, *NOTCH2*)

- ii. Family history of ALGS and one or more major clinical features of ALGS
- iii. Bile duct paucity and three or more major clinical features of ALGS
- iv. Four or more major clinical features of ALGS
- 2. Member has evidence of cholestasis (e.g., elevated serum bile acid level).
- 3. Member does not have a history or presence of other concomitant liver disease (e.g., biliary atresia, progressive familial intrahepatic cholestasis [PFIC], liver cancer).
- 4. Member has not received a liver transplant.
- 5. Member is 3 months of age or older.

B. Pruritus in progressive familial intrahepatic cholestasis (PFIC)

Authorization of 6 months may be granted for treatment of pruritus in progressive familial intrahepatic cholestasis (PFIC) when all of the following criteria are met:

- 1. Member has a confirmed molecular diagnosis of PFIC (e.g., mutations in *ATP8B1*, *ABCB11*, *ABCB4*, *TJP2*, *MYO5B*).
- 2. Member has evidence of cholestasis (e.g., elevated serum bile acid level).
- 3. Member does not have any other concomitant liver disease (e.g., biliary atresia, liver cancer, alternate non-PFIC related etiology of cholestasis).
- 4. Member has not received a liver transplant.
- 5. Member is 12 months of age or older.

VI. CONTINUATION OF THERAPY

Authorization of 12 months may be granted for all members (including new members) requesting continuation of therapy when the member is experiencing benefit from therapy (e.g., improvement in pruritus).

VII. OTHER

Member cannot use the requested medication concomitantly with any other ileal bile acid transporter (IBAT) inhibitor (e.g., Bylvay).

VIII. APPENDIX

Major clinical features of ALGS

- 1. Hepatic abnormality (e.g., cholestasis)
- 2. Cardiac abnormality (e.g., stenosis of the peripheral pulmonary artery and its branches)
- 3. Skeletal abnormality (e.g., butterfly vertebrae)
- 4. Ophthalmologic abnormality (e.g., posterior embryotoxon)
- 5. Characteristic facial features (e.g., triangular-shaped face with a broad forehead and a pointed chin, bulbous tip of the nose, deeply set eyes, and hypertelorism)
- 6. Vascular abnormalities (e.g., intracranial bleeds, systemic vascular anomalies)
- 7. Renal structural or functional abnormality (e.g., abnormally small size, cysts)

IX. REFERENCES

- 1. Livmarli [package insert]. Foster City, CA: Mirum Pharmaceuticals, Inc.; July 2024.
- 2. Spinner NB, Gilbert MA, Loomes KM, et al. Alagille syndrome. GeneReviews® [Internet]. https://www.ncbi.nlm.nih.gov/books/NBK1273/#_NBK1273_dtls__. Published May 19, 2000. Last updated January 4, 2024. Accessed August 14, 2024.
- 3. Menon J, Shanmugam N, Vij M, et al. Multidisciplinary management of Alagille syndrome. *J Multidiscip Healthc*. 2022;15:353-364.

4. National Organization for Rare Disorders (NORD). Alagille syndrome. Rare Disease Database. <https://rarediseases.org>. Published 2020. Last updated January 30, 2024. Accessed August 14, 2024.
5. The Childhood Liver Disease Research Network. Alagille syndrome. <https://childrennetwork.org/For-Physicians/Alagille-Syndrome-Information-for-Physicians>. Accessed August 14, 2024.
6. The Childhood Liver Disease Research Network. Progressive familial intrahepatic cholestasis. <https://childrennetwork.org/Clinical-Studies/Progressive-Familial-Intrahepatic-Cholestasis>. Accessed August 14, 2024.
7. McKiernan P, Bernabeu JQ, Girard M, et al. Opinion paper on the diagnosis and treatment of progressive familial intrahepatic cholestasis. *JHEP Rep*. 2023;6(1):1000949. doi: 10.1016/j.jhepr.2023.100949