RX.PA.063.MPC Rethymic

PURPOSE

The purpose of this policy is to define the prior authorization process for Rethymic (Allogeneic processed thymus tissue–agdc).

Rethymic is indicated for immune reconstitution in pediatric patients with congenital athymia. Rethymic is not indicated for the treatment of patients with severe combined immunodeficiency (SCID).

Rethymic is allogeneic thymic tissue harvested during cardiac procedures and cultured for implantation in congenitally athymic pediatric patients. Patients lacking a thymus suffer profound immunodeficiency and are unable to mount sufficient immune response due to a lack of immunocompetent T cells. Immature T cells migrate to the thymus to undergo the maturation process. Patients typically develop thymic activity 6 to 12 months after implantation. Patients should be monitored for the development of graft-versus-host disease, autoimmune disorders, and lymphoproliferative disorder. Safety and effectiveness in adult patients have not been established (1).

PROCEDURE

A. Initial Authorization Criteria:

Must meet all of the criteria listed below:

- Must be 17 years of age or younger
- Must be prescribed by or in consultation with a pediatric immunologist
    - Must have a diagnosis of congenital athymia based on flow cytometry documenting fewer than 50 naïve T cells/mm3 (CD45RA+, CD62L+) in the peripheral blood or less than 5% of total T cells being naïve in phenotype plus
    - One of the following:
        - Congenital heart defect; OR
        - Hypoparathyroidism (or hypocalcemia requiring calcium replacement); OR
        - Genetic testing confirming 22q11.2 hemizygosity; OR
        - Genetic testing confirming 10p13 hemizygosity; OR

        - CHARGE (coloboma, heart defect, choanal atresia, growth and development retardation, genital hypoplasia, ear defects including deafness) syndrome; OR
        - Hematopoietic Stem Cells (HSCs) successfully differentiate using artificial thymic organoid (ATO) system test; OR
        - CHD7 mutation
- Provider attests to withhold immunizations until immune function is established
- Must not be used for the treatment of patients with SCID
- Member does not have preexisting CMV infection (> 500 copies/mL in the blood by PCR on two consecutive assays)
- Member must not have preexisting renal impairment (eGFR <100 mL/min)
- Documentation of anti-human leukocyte antigen (HLA) antibody screening prior to treatment
    - If positive for anti-HLA antibodies, member must receive Rethymic from a donor who does not express HLA alleles
- If member previously received a hematopoietic cell transplantation (HCT) or a solid organ transplant, HLA matching is required, and member must receive Rethymic HLA matched to recipient alleles that were not expressed in the HCT donor
- Must be prescribed in combination with immunosuppressive therapy based on disease phenotype and phytohemagglutinin levels
- Provider attests to monitoring the member post treatment for the following:
    - Graft versus Host Disease (GVHD)
    - Autoimmune disorders
    - Malignancies

B. Must be prescribed at a dose within the manufacturer's dosing guidelines (based on diagnosis, weight, etc) listed in the FDA approved labeling.

C. Rethymic will be considered investigational or experimental for any other use and will not be covered.

D. <u>Reauthorization Criteria:</u>
Rethymic is not eligible for reauthorization.

<u>Limitations:</u>

Length of Authorization (if above criteria met)	
Initial Authorization	1 dose

Reauthorization	N/A

If the established criteria are not met, the request is referred to a Medical Director for review, if required for the plan and level of request.

APPLICABLE CODES:	
CODE	**DESCRIPTION**
J3590	Allogenic processed thymus tissue- agdc, Unclassified biologics
C9399	Allogenic processed thymus tissue- agdc, Unclassified biologics

REFERENCES

1. Rethymic [package insert]. Cambridge, MA; Enzyvant Therapeutics, Inc.; December 2021. Accessed October 2022.
2. Collins C, Sharpe E, Silber A, Kulke S, Hsieh EWY. Congenital athymia: genetic etiologies, clinical manifestations, diagnosis, and treatment. J Clin Immunol. 2021;41(5):881-895. doi.org/10.1007/s10875-021-01059-7.
3. Markert ML, Gupton SE, McCarthy EA. Experience with cultured thymus tissue in 105 children. J Allergy Clin Immunol. Published online August 3, 2021. doi:10.1016/j.jaci.2021.06.028

REVIEW HISTORY

DESCRIPTION OF REVIEW / REVISION	DATE APPROVED
New Policy	*10/2022*