

# LAC+USC MEDICAL CENTER POLICY

Subject: <b>ADULT RASBURICASE DOSING BY PHARMACY</b>	Original Issue Date: 3/27/20	Policy # <b>961</b>
	Supersedes: 3/27/20	Effective Date: 4/17/23
Policy Owner(s): Director of Pharmacy Services Executive Sponsor(s): Chief Medical Officer		
Departments Consulted: Pharmacy & Therapeutics Committee Hematology Medical Oncology	Reviewed & Approved by: Attending Staff Association Executive Committee Senior Executive Officer	Approved by: (Signature on File) Chief Medical Officer
		(Signature on File) Chief Executive Officer

## PURPOSE

- A. Rasburicase (Elitek) is indicated for the management of plasma uric acid levels in patients with leukemia, lymphoma, and solid tumor malignancies who are receiving chemotherapy and expected to experience tumor lysis syndrome (TLS). The manufacturer prescribing information states that the dosing for rasburicase is 0.2 mg/kg intravenously once daily up to five days. However, guidelines and accepted standards of practice provide alternative dosing strategies to conserve medication while maintaining the ability to lower plasma uric acid levels.
- B. This policy establishes procedures for determination and ordering of rasburicase dose by pharmacists.

## DEFINITIONS

- EHR: electronic health record
- IV: intravenous
- TLS: tumor lysis syndrome

## POLICY

- A. The pharmacist may pursue rasburicase dosing by pharmacy for all adult rasburicase orders. The rasburicase order is not required to include a pre-specified dose in a paper form by the ordering physician. When entered into the Orchid EHR, the rasburicase order must state the name of the original ordering physician whether dosed by physician or by pharmacist.
- B. Upon receipt of a rasburicase order in a paper form without a pre-specified dose by the ordering physician, the pharmacist will determine an appropriate dose according to the established principles below. The pharmacist will enter this dose into the Orchid EHR with an Order Comment stating, "Dosed by Pharmacy."

Subject: **ADULT RASBURICASE DOSING BY PHARMACY**Effective Date:  
4/17/23Policy #  
**961**

C. Upon receipt of a rasburicase order with a pre-specified dose by the ordering physician, the pharmacist will determine an appropriate dose according to the established principles below. If the calculated dose differs from the pre-specified dose, then the pharmacist will enter the calculated dose into the Orchid EHR with an Order Comment stating, "Dosed by Pharmacy." Otherwise, the pharmacist will enter the pre-specified dose into the Orchid EHR. If the pharmacist does not believe the order is indicated, the pharmacist will contact the current provider before canceling the order.

**D. Established Principles of Rasburicase Dosing**

1. Patients with hematologic malignancies or certain solid tumors exposed to chemotherapy are at a greater risk of TLS. Rasburicase is indicated for the prevention or treatment of elevated plasma uric acid as a result of TLS.
2. A single rasburicase 6 mg IV dose should be considered for patients with a baseline uric acid level greater than 12 mg/dL.
3. A single rasburicase 3 mg IV dose should be considered for patients with a baseline uric acid level between 7 and 12 mg/dL.
4. A single rasburicase 3 mg IV dose should be considered for patients without hyperuricemia but who will be receiving chemotherapy with high risk for TLS as defined by the following:
  - a. Large tumor burden as reflected by bulky disease, white blood cell counts greater than 50,000/ $\mu$ L, lactate dehydrogenase greater than 2x upper limit of normal, organ infiltration, or bone marrow involvement
  - b. High chemosensitivity of the malignancy
  - c. Preexisting nephropathy

**RESPONSIBILITY**

Pharmacy Department

**REFERENCES**

- Campara, M., Shord, S. S., Haaf, C. M. Single-dose rasburicase for tumor lysis syndrome in adults: weight-based approach. *Journal of Clinical Pharmacy and Therapeutics* 2009; 34:207-213.
- Herrington, JD, Dinh, BC. Fixed, low-dose rasburicase for the treatment or prevention of hyperuricemia in adult oncology patients. *Journal of Oncology Pharmacy Practice*, Vol. 21, No. 2, 2014, pp. 111-117

Subject: **ADULT RASBURICASE DOSING BY PHARMACY**Effective Date:  
4/17/23Policy #  
**961**

- Khan, M.A., Alshamrani, M.A., Aseeri, M.A., et. Al. Effectiveness of a single 6-mg fixed dose of rasburicase for prevention or management of hyperuricemia associated with tumor lysis syndrome in adults with cancer. *Journal of Hematology Oncology Pharmacy*, Vol. 9, No. 1, 2019, pp. 30-35.
- McBride, A., Lathon, S., Augustin, K., Butler, S. and Westervelt, P. (n.d.). Comparative evaluation of single fixed dosing and weight-based dosing of rasburicase for tumor lysis syndrome. *Pharmacotherapy*, Vol. 33, No. 3, 2013, pp. 295-303.
- Rasburicase (Elitek) prescribing information. Sanofi-Aventis U.S. LLC. October 19, 2019.
- Trifilio, SM., Pi, J., Zook, J., Golf, M., Coyle, K., Greenberg, D., Mehta, J. Effectiveness of a single 3-mg rasburicase dose for the management of hyperuricemia in patients with hematological malignancies. *Bone Marrow Transplantation*, Vol. 46, No. 6, 2011, pp. 800-805.
- Vines, A. N., Shanholtz, C. B., Thompson, J. L. Fixed-dose rasburicase 6mg for hyperuricemia and tumor lysis syndrome in high-risk cancer patients. *The Annals of Pharmacotherapy*, 2010; 44:1529-1537

**REVISION DATES**

April 17, 2023