

FMOLHS Drug Shortage Memo

To: All Providers

From: Pharmacy Department

Date: 05/02/2023

Drug Affected: Methylprednisolone Injection

Dear Providers,

Currently, there is a shortage of **methylprednisolone injection** due to manufacturing delays and overutilization nationwide. At OLOLRMC, a limited supply is currently available and we do not have a date where supply chain and manufacturing will allow for acquisition of more product. As a result, we are attempting to restrict utilization where evidence-based medicine confirms the maximal potential benefit to the patients.

Methylprednisolone is an intermediate-acting glucocorticoid commonly used for its anti-inflammatory/immunosuppressive properties, acute respiratory distress syndrome (ARDS), COVID-19, and COPD and asthma exacerbations. To conserve supply, the following recommendations during the period of shortage are:

- Consider usage of full vial sizes to minimize waste if dosing allows (available sizes: 40mg, 80mg, 125mg)
- Utilize dexamethasone for ARDS or COVID-19
- Add stop dates for glucocorticoid therapy when duration of therapy is defined in the literature (ex: REDUCE Trial³ dosing for COPD exacerbation; 5 day-course of therapy non-inferior to 14 day-course)
- Consider transitioning patients to oral prednisone
- Utilize alternative glucocorticoids when able (refer to table below for conversion and potency information)

Steroid Dose Conversion Chart^{1,2}

Hydrocortisone	Prednisone	Methylprednisolone	Dexamethasone
20mg	5mg	4mg	0.75mg
25	7	5	1
40	10	8	1.5
50	12.5	10	2
60	15	12	2.25
65	17.5	13	2.5
80	20	16	3
100	25	20	4
200	50	40	8
250	65	50	10
300	75	60	12
400	100	80	15
500	125	100	20



600	150	125	25
1200	300	250	50
2500		500	100
Hydrocortisone	Prednisone	Methylprednisolone	Dexamethasone
20mg	5mg	4mg	0.75mg
Short-Acting (half-life 8-12 hours)	Intermediate-Acting (half-life 18-36 hours)	Intermediate-Acting (half-life 18-36 hours)	Long-Acting (half-life 36-54 hours)
Convert 1:1 to PO hydrocortisone, may give in 2-3 divided doses	Prednisone (PO tablet)= Prednisolone (PO Liquid/ODT)	May convert to PO prednisone or prednisolone	Convert 1:1 to PO, recommended for daily administration
Glucocorticoid Potency: 1	Glucocorticoid Potency: 4-5	Glucocorticoid Potency: 5-6	Glucocorticoid Potency: 18
Mineralocorticoid Potency: 1	Mineralocorticoid Potency: 0.8	Mineralocorticoid Potency: 0.5	Mineralocorticoid Potency: <0.01

For any questions/concerns, please contact:

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References:

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2. Samuel S, Nguyen T, and Choi A. Pharmacologic Characteristic of Corticosteroids. *J Neurocrit Care.* 2017;10(2):53-59.
3. Leuppi JD, Schuetz P, Bingisser R, et al. Short-term vs Conventional Glucocorticoid Therapy in Acute Exacerbations of Chronic Obstructive Pulmonary Disease: The REDUCE Randomized Clinical Trial. *JAMA.* 2013;309(21):2223–2231. doi:10.1001/jama.2013.5023