HOUSTON Methodist LEADING MEDICINE

HOUSTON METHODIST
PHARMACY & THERAPEUTICS NEWS
June 2023

FORMULARY UPDATES

Laura M. Blackburn, PharmD

The following medications were **ADDED** to Formulary:

Medication	Pharmacologic Class and Indication	Considerations
Mosunetuzumab-axgb (Lunsumio™)	• Antineoplastic, bispecific CD20 -directed CD3 T-cell engager FDA-label for accelerated approval for treatment of adults with relapsed or refractory follicular lymphoma after two or more lines of systemic therapy	• Restricted to Hematology/ Oncology for FDA-labeled indications, administered in the outpatient setting after prior financial approval • Inpatient use allowed only for cycle 1 or high-risk patients experiencing adverse drug reactions
Vutrisiran (Amvuttra®)	• Transthyretin-directed small interfering RNA FDA-labeled for treatment of the polyneuropathy of hereditary transthyretin-mediated amyloidosis in adults	• Restricted to Neurology, Cardiology services for FDA-labeled indications and administered in the outpatient setting after prior financial approval

The following medications were reviewed and **NOT ADDED** to Formulary:

Medication	Pharmacologic Class and Indication	Considerations

Rilonacept (Arcalyst®)	• Interleukin-1 blocker FDA-labeled for:
	  • Cryopyrin-associated periodic syndromes (CAPS) in adults and children ≥ 12
	  • Maintenance of remission of Deficiency of IL-1 Receptor Antagonist (DIRA) in adults & pediatric patients
	  • Treatment of recurrent pericarditis and reduction in risk of recurrence in adults and children ≥ 12
		• Product available only through specialty pharmacy distribution and not available to be procured by the hospital
		• HM will utilize the approved Patient's own medication (PTOM) process to facilitate continuity of care as needed

Cenobamate (Xcopri®)	• Inhibition of voltage-gated sodium channels, reduction of repetitive neuronal firing; positive allosteric modulator of $GABA_A$ ion channels • FDA-labeled for treatment of partial-onset seizures in adults	• HM will utilize the approved Patient's own medication (PTOM) process to facilitate continuity of care as needed

A triennial review of the sodium phosphate enema automatic interchange was completed. Phosphate enemas present a risk to hospitalized patients with renal and cardiac diseases and are interchanged to agents of similar efficacy and lower risk such as mineral oil or bisacodyl.

The *Pharmacy & Therapeutics News* is dedicated to providing the most current information regarding medication-use policy and formulary issues. Each issue details recently approved actions from the system P&T committee as well as relevant patient safety, pharmacotherapy and drug distribution updates. Entity representatives to the system P&T committee structure can be found here.

Electronic Drug Info Resources Update

Historically, Houston Methodist maintained subscriptions for three electronic drug information resources: Lexicomp, Clinical Pharmacology, and Micromedex.

Considering the significant overlap in content and based on internal survey data from users, Lexicomp was identified as the most preferred resource for all drug information followed by Clinical Pharmacology and lastly, Micromedex.

In preparation for the discontinuation of the Clinical Pharmacology subscription, embedded hyperlinks to Clinical Pharmacology were removed in August 2022. As of June 1, 2023, Clinical Pharmacology is no longer accessible via a Houston Methodist subscription.

We are further assessing the need for several modules within Micromedex. There are certain drug information modules within Micromedex such as the NeoFax/Peds module as well as the Redbook module that do not overlap with Lexicomp content and would be retained. Moving forward HM staff may see a streamlined Micromedex platform with only these two modules available where other content would be accessible through the Lexicomp platform.

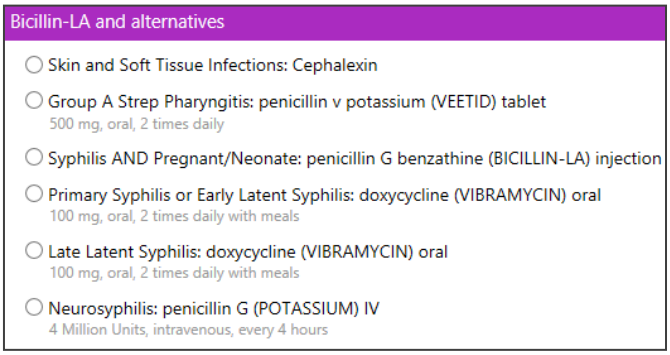
If you are unable to locate specific, needed drug information from Lexicomp, please contact our system pharmacy drug information team at: druginfo@houstonmethodist.org.

ANTIMICROBIAL STEWARDSHIP

Shivani Patel, PharmD

Bicillin LA National Shortage

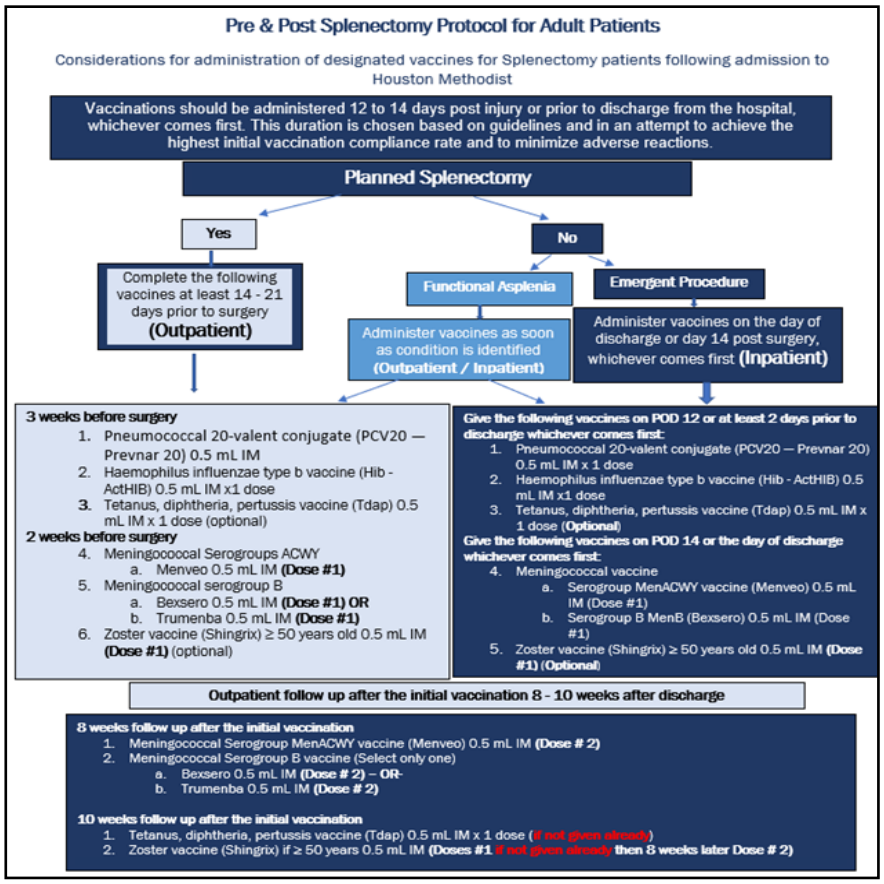
The Bicillin LA shortage is expected to last over 18 months and supply will be variable during this time. Based on current CDC recommendations, Bicillin-LA should be restricted to pregnant or neonatal patients with primary syphilis. To guide use aligned with the recommendations, alternatives for Bicillin-LA are presented as an epic order set.



Indications for use will guide providers to appropriate alternatives. Orders for treatment of pregnant or neonatal patients with syphilis will undergo secondary review a pharmacist prior to dispensing to confirm appropriate use.

Post-Splenectomy Vaccination

Emergent splenectomy procedures place patients at risk for infection with encapsulated organisms such as *Streptococcus pneumoniae*, *Haemophilus influenzae* type b, and *Neisseria meningitidis*. Appropriate vaccination is key for prevention as splenectomy patients have an increased life-time risk for severe sepsis of 1-2% resulting in a 50% mortality rate in these patients. Data shows that immunogenicity from vaccination is optimal when doses are given ≥ 14 days post-op and that IgG antibody levels are similar to those found in patients with intact spleens. However, optimal timing is balanced with a practical consideration of getting a vaccination series started on patients who otherwise may not return for their series post-discharge.



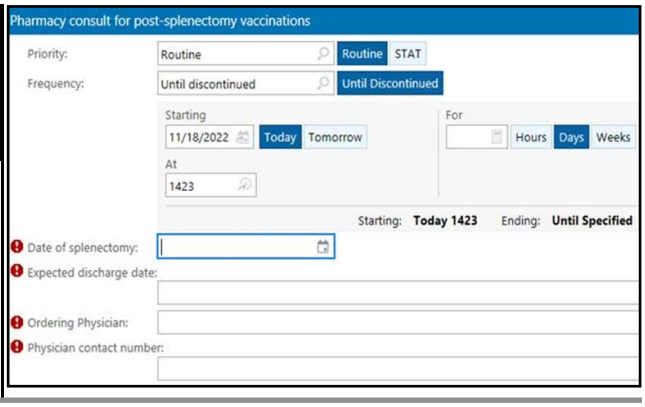
As outlined below, HM providers have two options for managing these needs. First, providers can complete the vaccine history and order and schedule therapies accordingly with guidance from an epic order set. Alternatively, providers can consult the pharmacist to complete the vaccination history and who will order needed vaccines per hospital protocol.

1. Physician Directed Ordering

Utilize order set in Epic containing all required and optional vaccines

2. Pharmacy Consult for Post-Splenectomy Vaccines

- Provider will enter the date of splenectomy and expected discharge date
- Pharmacist will conduct complete vaccine history
- Pharmacist will time vaccination administrations according to surgery date
- Pharmacist will communicate plan of care with the RN and patient
- Pharmacist will provide a complete vaccination record and post-discharge instructions to the patient



MEDICATION SAFETY & POLICY

Amaris Fuentes, PharmD

Houston Methodist maintains a robust quality improvement program for continuous medication use outcomes assessments and is powered by our exceptional pharmacy residency training programs, their preceptors and our entity and system medication safety pharmacists. The following reports reflect medication use evaluations recently completed that assessed HM data and patient care. Each review resulted in changes to several of the associated medication use process steps including but not limited to; medication storage, ordering, preparation, dispensing, education and monitoring to improve the safety, efficacy, and reliability of use of these therapies.

Lidocaine for Arrhythmia Management

Lidocaine dosing and monitoring practices in the treatment of ventricular arrhythmias at HM showed most patients had lidocaine levels ordered within 24 hours of initiation. A limited number of these levels were supratherapeutic. Opportunities were noted to expand the lidocaine *order panel* to an *order set* that includes nursing orders, telemetry monitoring, optional lidocaine bolus with dosing buttons, appropriately timed electrolyte and lidocaine level monitoring, and options for lipid rescue therapy. Additional pharmacovigilance rules will be added if no lidocaine levels are obtained within 12 hours of initiation.

Thyroid Panel for Monitoring Immunotherapy

The occurrence and treatment of both hyper- and hypothyroidism and the frequency of needed thyroid lab monitoring for patients receiving Immune Checkpoint Inhibitor (ICI) therapy were assessed. Overall, 31% experienced thyroid dysfunction. To improve care, updates will be made the default ordering frequency of thyroid function tests in ICI treatment plans, automation of correct ICD-10 codes with ICI therapy-related thyroid lab orders, and expand notification instructions for thyroid function test results that require further follow-up.

Ketamine for Pain Management

The outcomes of ketamine for pain management was assessed subsequent to recent policy & procedure updates. Overall, there were decreases in MME requirements 24-hours post-ketamine administration and lower pain scores. No large differences were seen in sedation or confusion scales pre- and post-ketamine and a low rate of arrhythmias and hypertension. The most recent blood pressure, heart rate, and RASS/POSS values will be added to the ordering display to support a thorough review at the point of ordering. Updated monitoring instructions will be added to clarify the sedation values that would require therapy discontinuation.

Fentanyl Patches

To address opportunities for better documentation of patch removals, communication/visibility of current MME requirements, and to reflect recent naloxone administration, enhanced epic reminders for patch removal will be implemented as well as building epic alerting of previous naloxone administrations. Epic will show the recent pain medication administrations to providers at ordering for improved conversions to patch therapy.

Vericiguat (Verquvo®)

Vericiguat is a soluble guanylate cyclase (sGC) stimulator approved for reducing cardiovascular death and heart failure hospitalization or need for outpatient IV diuretics in adults with symptomatic chronic heart failure and ejection fraction (EF) <45%, was added to HM Formulary in 2022.

Compliance with HM formulary restrictions [EF <45%, optimal guideline-directed medical therapy (GDMT) with worsening HF, and a negative pregnancy test if female and of reproductive potential] was assessed along with review of possible adverse events.

A review of orders between December 2022 through March 2023 showed 100% compliance with HM formulary restrictions. One adverse event was identified and was deemed unlikely to be related to vericiguat. HM will continue to promote the safe use of vericiguat through the guided-use strategies in epic and monitor for safety events through the TAPS system.

ANTICOAGULATION USE SAFETY

Michael Sirimaturos, PharmD

Factor Xa inhibitor-Guided Transition Algorithm

Transitioning factor Xa inhibitors (i.e. apixaban, rivaroxaban) to other anticoagulation strategies poses a challenge for inpatients with renal impairment. At HMH, factor Xa inhibitor anti-Xa levels are available to help detect delayed clearance. However, there is no labeled guidance for interpretation of the levels when they are elevated. A guidance document was approved by System P&T which provides recommendations for starting or delaying the initiation of new, parenteral anticoagulation therapy based on factor Xa inhibitor levels. A provider must also consider bleeding and thrombotic risk of each patient. The resource is available by clicking here.

Subcutaneous Unfractionated Heparin for VTE Prophylaxis Orders

A contributing factor to inappropriate dosing of subcutaneous unfractionated heparin (UFH) for VTE prophylaxis is the presence multiple ordering paths in Epic (e.g. order sets or stand-alone orders), Moving forward, UFH for DVT prophylaxis will be only be available to be ordered through Epic order sets. The order sets will steer providers to the appropriate dose and frequency based on the patient's bleeding risk and the weight.

MEDSAFETY MATTERS!

Amaris Fuentes, PharmD

ISMP Medication Safety Newsletter Links: Acute Care & NurseERR & Community/Ambulatory

Accidental Administration of Neuromuscular Blocking Agents

ISMP highlighted top medication errors and hazards reflected in ECRI's Top 10 Patient Safety Concerns for 2023. Three medication safety items are noted in the report and have been the focus of recent MedSafety Matters! in recent months. The third of these items are medication errors involving accidental administration of neuromuscular blocking agents (NMBAs).

NMBAs are notable high-alert medications with the potential for catastrophic injury and death. Accidental administration of these agents has unfortunately been reported to ISMP and in various highly publicized news stories with notable patient harm. Since 2016, one of the ISMP Targeted Medication Safety Best Practices for Hospitals has called upon organizations to optimize labeling and safe storage of these agents to address the root cause of accidental administrations. ISMP outlines recommendations which are applied at HM to mitigate this risk including:

- Eliminate NMBAs from areas where they are not routinely needed
- Segregate NMBAs from all other medications in the pharmacy by placing them in separate lidded containers in the refrigerator or other secure, isolated storage areas.
- Limit availability in automated dispensing cabinets (ADCs) to areas where they are needed
- Label all storage bins and/ or ADC pockets and drawers that contain neuromuscular blocking agents. All final medication containers should state: "WARNING: CAUSES RESPIRATORY ARREST – PATIENT MUST BE VENTILATED" or "WARNING: PARALYZING AGENT – CAUSES RESPIRATORY ARREST" or "WARNING: CAUSES RESPIRATORY PARALYSIS – PATIENT MUST BE VENTILATED" to clearly communicate that respiratory paralysis will occur and ventilation support is required. ☐
- Alert users at ADCs to enter or select clinically relevant information
- Implement pharmacy IV workflow management systems and require barcode scanning of each ingredient for positive identification before it is introduced in the compounding process.

NEWSLETTER STAFF

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System P&T Committee Roster is available to view here.

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