

MEMORANDUM

To: Physicians, Clinical Services Directors, Clinical Services Managers, Clinical Nurse Educators, Nurses and Allied Health Professionals

From: Patricia Mosnia, Clinical Director of Oncology, Palliative Care and Pharmacy, Co-Chair P&T
Dr. Sergio Borgia, Medical Director Infection Prevention and Control, Infectious Disease, Co-Chair P&T

Date: March 16, 2020

Subject: **Practice Change: Nebulized Medications for Paediatric Patients at Osler**
in Response to COVID-19 and Further Information on exceptions

To limit the potential spread of the COVID-19 virus via aerosolization and to ensure staff and patient safety, on March 13, 2020 Osler has recommended stopping the use of medications given via nebulizers for all adult inpatients. On March 16, 2020, Osler will further expand this to include all paediatric inpatients (excluding neonates). Consideration should be given to alternate dosage forms including administration of medications via inhaler (MDI) with a spacer when appropriate.

To facilitate the transition from nebules to inhalers, the following automatic substitutions for **paediatric** patients (excluding neonates) received expedited MAC approval (see below). These automatic substitutions will replace the historical therapeutic interchanges at Osler.

Exceptions:

- Neonates
- Sodium chloride 3% nebules (i.e. for bronchiolitis in neonates) will continue to be stocked on current Pyxis Medstations and sodium chloride 3% nebules for sputum induction
- Medications via inhalation that do not have an MDI alternative and are medically necessary (epinephrine, N-acetylcysteine are some examples) – the pharmacist will be reviewing all of these orders with the prescriber prior to use
 - As with any patient – health care workers should be doing a risk assessment prior to any patient intervention and at a minimum doing routine practices including hand hygiene
 - In patients with clinical presentations or known diagnosis where additional precautions may be warranted, infection control will identify with corresponding signage

IMPLEMENTATION TIMELINE:

Monday March 16th 2020:

- All nebulized medications will be removed from all stocking locations at Osler (budesonide, ipratropium and salbutamol)
 - Exceptions: Paediatrics, NICU, UCC and one Emergency Program Pyxis Medstation at BCH/EGH (**reserved for STAT doses for neonates only**)
- All paediatric patients (excluding neonates) currently prescribed nebulized medications will be converted to a corresponding inhaler (MDI) with/without aerochamber

Actions by Prescribers:

- Order inhalers whenever possible
- Avoid ordering medications to be given via nebulizer
- Select the inhaler route on order sets when this is an option

Actions by Pharmacy:

Pharmacists will convert all paediatric patients (excluding neonates) currently prescribed nebules to an equivalent dose of an appropriate inhaler on March 16, 2020. A statement will print on the cMAR identifying implementation of the automatic substitution.

Pharmacy technicians will:

- remove all nebules from all stocking locations at Osler, including Pyxis MedStations
 - Exceptions: Paediatrics, NICU, UCC and one Emergency Program Pyxis Medstation at BCH/EGH
- stock salbutamol MDI (100 mcg/puff), ipratropium MDI (20 mcg/puff), and fluticasone MDI (50 mcg/puff), fluticasone MDI (125 mcg/puff) on selected Pyxis MedStations where nebules were previously stocked
- dispense patient-specific inhalers for all paediatric inpatients
- dispense patient-specific nebules if needed for all neonates

Note: Inhalers stocked on inpatient Pyxis Medstations should be accessed for emergent situations only.

Nebules stocked on Pyxis Medstations should be reserved for **STAT doses for neonates** only.

Actions by Nursing:

All automatic substitutions are implemented without a new written order in the patient chart. Therefore, the nurse should transcribe the new order onto the cMAR and administer the medication via inhaler, as outlined in the automatic substitution.

Salbutamol nebulas automatic substitution:

All Paediatric Orders (excluding neonates*) for:	Will be changed to:
Salbutamol 1.25 mg inhalation (via nebulas)	Salbutamol inhaler (100 mcg/puff) 2 puffs INH at the same prescribed frequency
Salbutamol 2.5 mg inhalation (via nebulas)	Salbutamol inhaler (100 mcg/puff) 4 puffs INH at the same prescribed frequency
Salbutamol 5 mg inhalation (via nebulas)	Salbutamol inhaler (100 mcg/puff) 8 puffs INH at the same prescribed frequency

*Neonate: PMA of greater than 44 weeks and a PNA of greater than 4 weeks

Ipratropium nebulas automatic substitution:

All Paediatric Orders (excluding neonates*) for:	Will be changed to:
Ipratropium 250 mcg inhalation (via nebulas)	Ipratropium inhaler (20 mcg/puff) 4 puffs INH at the same prescribed frequency
Ipratropium 500 mcg inhalation (via nebulas)	Ipratropium inhaler (20 mcg/puff) 8 puffs INH at the same prescribed frequency

*Neonate: PMA of greater than 44 weeks and a PNA of greater than 4 weeks

Budesonide nebulas automatic substitution:

All Paediatric Orders (excluding neonates*) for:	Age	Will be changed to:
Budesonide inhalation (via nebulas)	Less than 1 year	Fluticasone inhaler (50 mcg/puff) – 2 puffs INH Q12H
	Greater than or equal to 1 year	Fluticasone inhaler (125 mcg/puff) – 2 puffs INH Q12H

*Neonate: PMA of greater than 44 weeks and a PNA of greater than 4 weeks

Thank you for your cooperation in this important safety initiative!