



A Member of Trinity Health

THERAPEUTIC SUBSTITUTION

[Respiratory Substitutions for COVID-19](#)

[DVT prophylaxis with Enoxaparin and Heparin for COVID-19](#)

POLICY:

Therapeutic substitution is the automatic interchange of therapeutically equivalent drugs as determined by the Pharmacy & Therapeutics Committee. Agents must demonstrate therapeutically equivalent efficacy to be approved for substitution. Therapeutic substitutions can and will be made at time of order verification without further approval from the prescriber based on said established equivalencies and drug availability.

Procedure: Pharmacist

1. Upon receipt of an order for an agent to be substituted, the pharmacist will review the parameters set forth by the Pharmacy & Therapeutics Committee.
2. The pharmacist will review the patient's records to ensure that the substitution parameters are met.
3. The pharmacist will use renal dosing guidelines for dose adjustment.
4. A prescriber may request a particular product for a specific patient. The prescriber must write "DAW" to prevent initiation of the substitution process.
5. In order to facilitate communication of the substitution to the nurse administering the medication, the record of medication administration will reflect the drug which was substituted. For example: "Per Formulary Substitution for Nexium".

Respiratory Automatic Substitutions during COVID-19 pandemic March 2020 (original), May 2020 (revised)

1. Refer to Trinity COVID-19 Communication: Patients and Inhaled Respiratory Medications - Changes to Current Processes Effective March 18; version 2 for additional guidance.
http://www.trinity-health.org/workfiles/covid-19/COVID19_Patients%20and%20Inhaled%20Respiratory%20Med%20Changes.pdf
2. Ideally, in order to guide proper delivery method, RT will assess patient before orders are placed. The goal is to maximize the use of nebulized medications in appropriate patients and to prevent the use of them when the patient has suspected or confirmed COVID-19.
3. Patient's Own medication/Inhaler is NOT allowed
4. Decision tree
 - a. COVID-19 not suspected: No change -- follow current therapeutic substitution policy
 - b. COVID-19 suspected or confirmed: Use the COVID-19 substitution policy
5. [Metered Dose Inhaler: Common Canister Procedure for the ED, 3-4, MSICU and CVICU](#)

Respiratory Substitution Table for COVID-19 patients

****If COVID-19 is not suspected: Do NOT use this table. Follow current therapeutic substitution policy****

| If ordered | Convert to | Comments |
|--|---|---|
| Not on anticholinergic prior to admission | | |
| Albuterol neb sol 3ml Levalbuterol neb sol/MDI Perforomist (formoterol) monotherapy Foradil (formoterol) monotherapy Brovana (arformoterol) monotherapy Striverdi (olodaterol) monotherapy Arcapta (indacaterol) monotherapy | Albuterol MDI 2 INH QID | Orders for Serevent will not be converted in COVID positive patients. |
| Spiriva, Combivent or Atrovent MDI is ordered in a patient not on anticholinergic prior to admission | Albuterol MDI 2 INH QID | |
| On an anticholinergic prior to admission, no beta-agonist | | |
| Ipratropium nebulizer or MDI Aclidinium (Tudorza) Umeclidinium (Incruse) Glycopyrrolate (Seebri) Glycopyrrolate/formoterol (Bevespi) | Tiotropium (Spiriva Handihaler) 1 INH qday If Spiriva is NOT in stock but Atrovent MDI is available, substitute Ipratropium MDI 2 INH QID (use common canister if on approved location) If Spiriva and Atrovent are NOT in stock but Combivent MDI is available, substitute Combivent Respimat 2 INH QID | Spiriva should be reserved for COVID (PUI/+) patients on an anticholinergic prior to admission If Spiriva, Combivent Respimat and Atrovent MDI are NOT in stock substitute Albuterol MDI 2 INH QID |
| See next page for more | | |

| If ordered | Convert to | Comments |
|--|--|---|
| On an anticholinergic prior to admission, plus beta agonist | | |
| Duoneb (albuterol/ipratropium neb sol) Aclidinium (Tudorza) plus LABA/SABA Umeclidinium (Incruse) plus LABA/SABA Glycopyrrolate (Seebri) plus LABA/SABA Glycopyrrolate/formoterol (Bevespi) Umeclidinium/vilanterol (Anoro Ellipta) Tiotropium/olodaterol (Stiolto Respimat) Glycopyrrolate/indacaterol (Utibron Neohaler) LAMA or ipratropium plus Perforomist (formoterol) or Foradil (formoterol) or Brovana (arformoterol) or Striverdi (olodaterol) or Arcapta (indacaterol) | Tiotropium (Spiriva Handihaler) 1 INH qday Plus Albuterol MDI 2 INH QID If Spiriva is NOT in stock but Atrovent MDI is available, substitute Ipratropium MDI 2 INH QID plus Albuterol MDI 2 INH QID (use common canister for both if on approved location) If Spiriva and Atrovent are NOT in stock but Combivent MDI is available, convert to Combivent Respimat 2 INH QID | Spiriva should be reserved for patients on an anticholinergic prior to admission If Spiriva, Combivent Respimat and Atrovent MDI are NOT in stock substitute Albuterol MDI 2 INH QID |
| Miscellaneous | | |
| Trelegy (vilanterol, umeclidinium, fluticasone) Breztri Aerosphere (budesonide, glycopyrrolate, formoterol) All other triple therapy inhalers | Spiriva 1 INH qday plus Dulera 200 mcg/5mcg 2 INH BID | |
| Perforomist (formoterol) + ICS Foradil (formoterol) + ICS Brovana (arformoterol) + ICS | Dulera 200 mcg/5mcg 2 INH BID | |
| Pulmicort (budesonide) nebulized plus LABA/SABA | Dulera 200 mcg/5mcg 2 INH BID | |

Automatic substitution per pharmacist for suspected/confirmed COVID-19 patients

**VTE PROPHYLAXIS FOR ALL HOSPITALIZED HIGHLY-SUSPECTED OR CONFIRMED COVID-19 PATIENTS
WITHOUT CONTRAINDICATIONS**

| CrCL | ≥30 ml/min | 29 – 10 ml/min | < 10 ml/min |
|--------------------------|-------------------|----------------|----------------|
| | Enoxaparin | | Heparin |
| BMI less than 40 | 40 QD | 30 QD | 5000 U q8h |
| BMI 40 or greater | 40 BID | 40 QD | 7500 U q8h |

*For patients <50 kg and age >80 YO, dose adjustment to Heparin 5000 units SubQ q12 hour
If pharmacologic prophylaxis contraindicated (active bleeding, PLT <25-30K): SCDs

MONITORING:
CrCl and CBC: Daily for critically ill, or every 2-3 days for other hospitalized
PTT, PT/INR, D-Dimer, fibrinogen: Every 2-3 days

Monoclonal Antibodies for Post Exposure Prophylaxis or Treatment of COVID

| If ordered | Convert to | Comments |
|-----------------------------------|-------------------------|--|
| Casirivimab/imdevimab (REGEN-COV) | Bamlanivimab/etesevimab | Can use either product interchangeably |

Therapeutic Substitution Chart

| If Ordered | Interchange | Notes/Exceptions |
|---|---|---|
| <i>Antihistamines/Cough/Cold</i> | | |
| Azelastine nasal spray (any strength) | Azelastine nasal spray 0.1% twice daily | If there is a shortage of 0.1%, then 0.15% will be substituted. |
| Mucinex DM (Guaifenesin/dextromethorphan) | Guaifenesin 600mg | |
| Guaifenesin oral syrup 100-200mg 300-400mg 500-600mg | Guaifenesin oral syrup 200mg 400mg 600mg | |
| Hycodan Syrup (hydrocodone/homatropine) ml q6h [max 5ml] prn cough | Tussionex Suspension (hydrocodone/chlorpheniramine) ml q12h [max 5ml] prn cough | |
| <i>ACEI</i> | | |
| Quinapril (Accupril) 5mg po Daily Perindopril (Aceon) 2mg PO daily Benazepril (Lotensin) 5mg PO daily Fosinopril 5mg PO daily Moexipril (Univasc) 3.75mg PO daily Trandolapril (Mavik) 0.5mg PO daily Ramipril (Altace) 1.25mg PO daily | Lisinopril 5mg PO daily | |
| Quinapril (Accupril) 10mg po daily Perindopril (Aceon) 4mg po daily Benazepril (Lotensin) 10mg po daily Fosinopril 10mg po daily Moexipril (Univasc) 7.5mg po daily Trandolapril (Mavik) 1mg po daily Ramipril (Altace) 2.5mg po daily | Lisinopril 10mg PO daily | |
| Quinapril (Accupril) 20mg po daily Perindopril (Aceon) 8mg po daily Benazepril (Lotensin) 20mg po daily Fosinopril 20mg po daily Moexipril (Univasc) 15mg po daily Trandolapril (Mavik) 2mg po daily Ramipril (Altace) 5mg po daily | Lisinopril 20mg PO daily | |

| If Ordered | Interchange | Notes/Exceptions |
|---|---------------------------------------|-------------------------|
| Quinapril (Accupril) 40mg po daily Perindopril (Aceon) 16mg po daily Benazepril (Lotensin) 40mg po daily Fosinopril 40mg po daily Moexipril (Univasc) 30mg po daily Trandolapril (Mavik) 4mg po daily Ramipril (Altace) 10mg po daily | Lisinopril 40mg PO daily | |
| Quinapril (Accupril) 80mg po daily Benazepril (Lotensin) 80mg po daily Fosinopril 80mg po daily Moexipril (Univasc) 60mg po daily Trandolapril (Mavik) 4mg po daily Ramipril (Altace) 20mg po daily | Lisinopril 80mg PO daily | |
| <i>Statins</i> | | |
| Fluvastatin (Lescol) 20 – 40mg PO daily Pitavastatin (Livalo) 1-2mg PO daily Lovastatin 10-40mg PO daily Lovastatin SR 20-40mg PO daily Simvastatin (Zocor) 10-20mg PO daily | Atorvastatin 10mg PO qbedtime | |
| Fluvastatin (Lescol) 80mg PO daily Pitavastatin (Livalo) 4 mg PO daily Lovastatin 80mg PO daily Lovastatin SR 60-80mg PO daily Simvastatin (Zocor) 40mg PO daily Rosuvastatin (Crestor) 5mg PO daily | Atorvastatin 20mg PO qbedtime | |
| Rosuvastatin (Crestor) 10mg PO daily Simvastatin (Zocor) 80mg PO daily | Atorvastatin 40mg PO qbedtime | |
| Rosuvastatin (Crestor) 40mg PO daily | Atorvastatin 80mg PO qbedtime | |
| <i>Diabetes</i> | | |
| Alogliptin (Nesina) 6.25mg PO daily | Sitagliptin 25mg PO daily | |
| Alogliptin (Nesina) 12.5mg PO daily Saxagliptin (Onglyza) 2.5mg PO daily | Sitagliptin 50mg PO daily | |
| Alogliptin (Nesina) 25mg PO daily Saxagliptin (Onglyza) 5mg PO daily Linagliptin (Tradjenta) 5mg PO daily | Sitagliptin 100mg PO daily | |
| <i>Migraine</i> | | |
| Almotriptan 6.25mg or 12.5mg PO Eletriptan 20mg or 40mg PO Frovatriptan 2.5mg PO Sumatriptan nasal spray | Sumatriptan 50mg PO once prn migraine | |

| If Ordered | Interchange | Notes/Exceptions |
|---|--|-------------------------|
| Zolmitriptan 2.5mg, 5mg PO, nasal, ODT | | |
| Butalbital-aspirin-caffeine (Fiorinal) any # tabs/frequency | Butalbital-acetaminophen-caffeine (Fioricet) same # tabs/frequency | |
| <i>Nasal Corticosteroid</i> | | |
| Beclomethasone (Beconase, Qnasl) 80mcg/inh NS Flunisolide (Nasalide, Nasarel) NS Mometasone (Nasonex) 50mcg/inh NS Budesonide (Rhinocort) NS Triamcinolone (Nasacort AQ, Nasacort allergy 24 hour) NS | Fluticasone nasal 0.05mg/inh 1 spray to both nares daily | |
| <i>H2RA</i> | | |
| Famotidine 10mg PO daily or BID Cimetidine (Tagamet) 200mg PO BID | Famotidine 20mg PO daily | |
| Cimetidine (Tagamet) 300mg PO BID Ranitidine (Zantac) 75mg or 150mg PO TID | Famotidine 20mg PO BID | |
| Cimetidine (Tagamet) 400mg PO daily or BID Nizatidine (Axid AR) 150mg PO daily or BID Ranitidine (Zantac) 75mg or 150mg PO daily or BID | Famotidine 20mg PO same frequency | |
| Cimetidine (Tagamet) 800mg PO daily | Famotidine 40mg PO daily | |
| Ranitidine (Zantac) 300mg PO TID | Famotidine 40mg PO BID | |
| Ranitidine (Zantac) 300mg PO daily or BID | Famotidine 40mg PO same frequency | |
| <i>PPI</i> | | |
| Rabeprazole (AcipHex) 20mg or 60mg PO daily or BID Dexlansoprazole (Dexilant) 15mg, 30mg or 60mg PO daily or BID Esomeprazole (Nexium) 20 or 40mg PO daily or BID Lansoprazole (Prevacid) 15mg, 30mg, 60mg PO daily or BID Omeprazole (Prilosec) 10mg, 20mg, 40mg PO daily or BID | Pantoprazole (Protonix) 40mg PO same frequency | |
| Pantoprazole (Protonix) 20mg PO daily or BID | Pantoprazole (Protonix) 40mg PO daily | |

| If Ordered | Interchange | Notes/Exceptions |
|---|---|--|
| Intravenous PPIs Pantoprazole IV 80mg load, 8mg/hr continuous infusion for GI bleed | Pantoprazole 40mg IV q12h for GI bleed | |
| Pantoprazole IV any dose/frequency other than 40mg q12h for GI bleed | Pantoprazole 40mg IV q12h for GI bleed | |
| Pantoprazole IV (any dose/frequency) & NO GI bleed | Famotidine 20mg IV q12h (renal adjust per policy) | |
| <i>CNS</i> | | |
| Paroxetine extended release (Paxil CR) 12.5mg PO qam | Paroxetine (Paxil) 10mg PO daily | |
| Paroxetine extended release (Paxil CR) 25mg PO qam | Paroxetine (Paxil) 20mg PO daily | |
| Paroxetine extended release (Paxil CR) 37.5mg PO qam | Paroxetine (Paxil) 30mg PO daily | |
| Amitriptyline/perphenazine tabs any dose/frequency | Amitriptyline tabs and perphenazine tabs same doses/frequencies | |
| <i>HIV/Antiviral</i> | | |
| Symtuza 1 tablet PO daily | Darunavir 800mg PO, cobicistat 150mg PO and tenofovir 25mg po daily | |
| Juluca (dolutegravir/rilpivirine) | Dolutegravir plus rilpivirine | POM allowed. Patient should never miss a dose. |
| <i>Pancreatic Enzymes</i> | | |
| 3,000-8,000 lipase units | Zenpep 5,000 units | |
| 10,000 – 16,800 lipase units | Zenpep 10,000 units | |
| 17,000 – 24, 000 lipase units | Zenpep 20,000 units | |
| >24,000 lipase units | Zenpep 40,000 units (2x 20,000 units) | |
| <i>Anticonvulsant</i> | | |
| Levetiracetam 500mg ER PO daily | Levetiracetam 250mg PO BID | |
| Levetiracetam 750mg ER PO daily | Levetiracetam 500mg PO daily | |
| Levetiracetam 1000mg ER PO daily | Levetiracetam 500mg PO BID | |
| Levetiracetam 2000mg ER PO daily | Levetiracetam 1000mg PO BID | |
| Levetiracetam 3000mg ER PO daily | Levetiracetam 1500mg PO BID | |
| <i>Insulins</i> | | |
| Aspart (Novolog, Fiasp), glulisine (Apidra), Lispro (Ademlog) IV or SC (U-100) | Lispro U-100 (Humalog) IV or SC 1:1 conversion | |

| If Ordered | Interchange | Notes/Exceptions |
|---|---|-------------------------|
| Regular (Novolin R) IV or SC | Regular (Humulin R) IV or SC 1:1 conversion | |
| NPH (Novolin N) | NPH (Humulin N) SC 1:1 conversion | |
| Glargine U-100 Detemir (Levemir) | Glargine (Lantus) 1:1 conversion, give once daily at hs | |
| Glargine U-300 (Toujeo) Degludec (Tresiba) U-100 or U-200 | Glargine (Lantus)- reduce dose by 20% and give once daily at HS | |
| <i>Urinary/BPH Agents</i> | | |
| Darifenacin (Enablex) 7.5-15mg PO daily Tolterodine (Detrol) 1-2mg PO BID Tolterodine (Detrol LA) 2-4mg po daily Fesoterodine (Toviaz) 4-8mg po daily Flavoxate 100mg or 200mg TID or QID Mirabegron (Myrbetriq) 25-50mg PO daily Oxybutynin(Gelnique) 3% or 10% transdermal gel daily Solifenacin (Vesicare) 5-10mg PO daily | Oxybutynin 5mg PO BID | |
| Alfuzosin (Uroxatral) 10mg PO daily Doxazosin (Cardural XL) 4mg po daily Silodosin (Rapaflo) 4mg po daily | Tamsulosin 0.4mg PO daily after breakfast | |
| Doxazosin (Cardural XL) 8mg PO daily Silodosin (Rapaflo) 8mg PO daily | Tamsulosin 0.8mg PO daily after breakfast | |
| Terazosin 1mg PO qbedtime | Doxazosin 1mg PO qbedtime | |
| Terazosin 2mg PO qbedtime | Doxazosin 2mg po qbedtime | |
| Terazosin 5mg PO qbedtime | Doxazosin 4mg po qbedtime | |
| Terazosin 10mg PO qbedtime | Doxazosin 8mg po qbedtime | |
| Dutasteride 0.5mg PO daily | Finasteride 5mg PO daily | |
| Phenazopyridine 100mg PO daily or TID | Phenazopyridine 95mg PO same frequency | |
| Phenazopyridine 200mg PO daily or TID | Phenazopyridine 190mg PO same frequency | |
| <i>Diuretic</i> | | |
| Eplerenone (Inspra) 25mg PO daily | Spirolactone 12.5mg PO daily | |
| Eplerenone (Inspra) 25mg PO BID | Spirolactone 12.5mg PO BID | |
| Eplerenone (Inspra) 50mg PO daily | Spirolactone 25mg PO daily | |
| Eplerenone (Inspra) 50mg PO BID | Spirolactone 25mg PO BID | |
| Eplerenone (Inspra) 100mg PO daily | Spirolactone 50mg PO daily | |
| <i>Fenofibrate</i> | | |
| Fenofibrate 30mg, 35mg, 40mg, 43mg, 45mg, 48mg, 50mg, 67mg, 90mg PO daily | Fenofibrate 54mg PO daily | |

| If Ordered | Interchange | Notes/Exceptions |
|---|--|------------------|
| Fenofibrate 105mg, 120mg, 130mg, 134mg, 135mg, 150mg, 160mg, 200mg PO daily | Fenofibrate 145mg PO daily | |
| Antihistamines | | |
| Fexofenadine (Allegra) 30mg, 60mg or 180mg PO BID Cetirizine (Zyrtec) 5mg or 10mg PO daily Desloratadine (Clarinex) 5mg PO daily Levocetirizine (Xyzal) 5mg PO daily | Loratadine 10mg PO daily | |
| Fexofenadine-pseudoephedrine (any dose) or loratadine-pseudoephedrine 5mg-120mg PO | Loratadine-pseudoephedrine 10mg-240mg PO daily | |
| Beta Blockers | | |
| Nebivolol (Bystolic) 2.5mg PO daily | Metoprolol tartrate 12.5mg PO BID | |
| Acebutolol (Sectral) 200mg PO daily Nebivolol (Bystolic) 5mg PO daily | Metoprolol tartrate 25mg PO BID | |
| Acebutolol (Sectral) 200mg PO BID Acebutolol (Sectral) 400mg PO daily Betaxolol (Kerlone) 10mg PO daily Nebivolol (Bystolic) 10mg PO daily | Metoprolol tartrate 50mg PO BID | |
| Acebutolol (Sectral) 400mg PO bid Betaxolol (Kerlone) 20mg PO daily Nebivolol (Bystolic) 20mg PO daily | Metoprolol tartrate 100mg PO BID | |
| Bisoprolol (Zebeta) 2.5mg PO daily | Metoprolol Succinate ER 50mg PO daily | |
| Bisoprolol (Zebeta) 5mg PO daily | Metoprolol Succinate ER 100mg PO daily | |
| Bisoprolol (Zebeta) 10mg PO daily | Metoprolol Succinate ER 200mg PO daily | |
| Nadolol 20mg PO daily | Propranolol 10mg PO BID | |
| Nadolol 40mg PO daily Pindolol 5mg PO BID Timolol 5mg PO BID | Propranolol 20mg PO BID | |
| Nadolol 80mg PO daily Pindolol 10mg PO BID Timolol 10mg PO BID | Propranolol 40mg PO BID | |
| Pindolol 20mg PO BID Timolol 20mg PO BID | Propranolol 80mg PO BID | |
| Pindolol 40mg PO BID | Propranolol 160mg PO BID | |
| Carvedilol ER 10 mg PO Daily | Carvedilol 3.125mg PO BID | |
| Carvedilol ER 20 mg Tab PO Daily | Carvedilol 6.5mg PO BID | |
| Carvedilol ER 40 mg Tab PO daily | Carvedilol 12.5mg PO BID | |
| Carvedilol ER 80 mg Tab PO daily | Carvedilol 25mg PO BID | |

| If Ordered | Interchange | Notes/Exceptions |
|---|--|------------------|
| Calcium Channel Blockers | | |
| Adalat CC 30 mg oral tablet, extended release PO daily | NIFEdipine 30mg ext release PO daily | |
| Adalat CC 60 mg oral tablet, extended release PO daily | NIFEdipine 60mg ext release PO daily | |
| Adalat CC 90 mg oral tablet, extended release PO daily | NIFEdipine 90mg ext release PO daily | |
| felodipine 2.5mg PO daily isradipine 2.5mg PO BID nisoldipine 8.5 mg oral tablet, extended release PO daily | amLODIPine 2.5mg PO daily | |
| felodipine 5mg PO daily isradipine 5mg PO daily nisoldipine (Sular) 17 mg or 20mg PO daily | amlodipine 5mg PO daily | |
| felodipine 10mg PO daily isradipine 5mg PO BID or 10mg PO daily nisoldipine (Sular) 25.5mg, 30mg, 34mg, 40mg PO daily | amlodipine 10mg PO daily | |
| Diltiazem Hydrochloride SR 60 mg/12 hours oral capsule, extended release PO BID | Diltiazem Hydrochloride CD 120 mg/24 hours oral capsule PO daily | |
| Diltiazem Hydrochloride SR 90 mg/12 hours oral capsule, extended release PO BID | Diltiazem Hydrochloride CD 180 mg/24 hours oral capsule PO daily | |
| Diltiazem Hydrochloride SR120 mg/12 hours oral capsule, extended release PO BID | Diltiazem Hydrochloride CD 240 mg/24 hours oral capsule PO daily | |
| Cardizem LA, Cartia XT, Dilacor XR, Dilt-CD, Diltia XT, Dilt-XR, Diltzac, Matzim, Taztia XT, Tiazac any dose PO daily | Diltiazem Hydrochloride CD 24 hours oral capsule, same dose PO daily | |
| ARBs | | |
| Candesartan (Atacand) 4mg po daily | Valsartan 40mg PO daily | |
| Candesartan (Atacand) 8mg po daily | Valsartan 80mg po daily | |
| Candesartan (Atacand) 16mg po daily | Valsartan 160mg po daily | |
| Candesartan (Atacand) 32mg po daily | Valsartan 320mg po daily | |

| If Ordered | Interchange | Notes/Exceptions |
|--|--|--|
| Irbesartan (Avapro) 75mg PO daily Olmesartan (Benicar) 10mg po daily Telmisartan (Micardis) 20mg po daily | Losartan 25mg PO daily | |
| Irbesartan (Avapro) 150mg po daily Olmesartan (Benicar) 20mg PO daily Eprosartan (Teveten) 600mg PO daily Telmisartan (Micardis) 40mg PO daily Azilsartan (Edarbi) 40mg PO daily | Losartan 50mg PO daily | |
| Irbesartan (Avapro) 300mg po daily Olmesartan (Benicar) 40mg PO daily Telmisartan (Micardis) 80mg PO daily Azilsartan (Edarbi) 80mg PO daily | Losartan 100mg PO daily | |
| <i>Leukotriene Receptor Antagonist</i> | | |
| Zafirlukast 20mg PO BID | Montelukast 10mg PO daily | |
| <i>Anti-Infectives</i> | | |
| Cloxacillin | Dicloxacillin | |
| Oxacillin, Methicillin | Oxacillin, Nafcillin | |
| Cephalosporin: Any 1 st generation (<i>Oral</i>) <i>Cephadroxil</i> | Cephalexin (<i>Oral</i>) 250mg, 250mg/5ml | |
| Cephalosporin: Any 2 nd generation (<i>Oral</i>) <i>Cefaclor, Cefprozil (except liquid)</i> | Cefuroxime 250mg & 500mg (<i>Oral</i>) <i>Liquid is cefprozil 250mg/5ml</i> | Cefuroxime does not come in a liquid, therefore cefprozil liquid will be used instead. |
| Cephalosporin: Any 3 rd generation (<i>Oral</i>) <i>Cefditoren, Cefixime, Cefpodoxime, Cefibuten</i> | Cefdinir 300mg capsule, 250mg/5ml | |
| Doxycycline IV/PO Indication: Pneumonia | Azithromycin 500mg IV/PO daily | Azithromycin 3 day stop date can be added for non-ICU patients Only |
| Moxifloxacin IV/PO | Levofloxacin IV/PO | Levofloxacin dose will be adjusted per renal dosing policy |
| Metronidazole (any dose) IV or PO Frequency – q6h - q8h | Metronidazole (same dose) IV or PO Frequency q8h-12h. | Exception: brain abscess |
| Mupirocin (Bactroban) Nasal Tubes | Mupirocin (Bactroban) 22g tubes | ONLY IF the nasal tubes are on back-order and the inventory is completely depleted, the 22g tube may be dispensed. |
| Nystatin suspension (frequency of once to four times daily) | Clotrimazole troche 4 times daily | Exceptions 1. NICU/ICN, peds patients 2. Adult patients who are intubated |
| Vancomycin 250mg PO q 6h | Vancomycin 125mg PO q 6h | Exceptions 1. If part of a vancomycin taper regimen. |

| If Ordered | Interchange | | | Notes/Exceptions |
|--|---|--|--|---|
| | | | | 2. Dose increased from 125mg (MD will be called to determine if they want the 500mg dose) 3. Meets criteria for severe and complicated <i>C. difficile</i> . (MD will be called to increase dose to 500mg) |
| Vancomycin Weight-based FIRST Dose | IV First dose 1 gram 1.5 grams 2 grams | Sepsis Patients < 50kg 50-80kg >80kg | All other Adults < 70kg 70-100kg > 100kg | Refer to policy Pharmacokinetic Dosing Service |
| Zosyn (Piperacillin/Tazobactam) 3.375g or 4.5g IV q 6h | Patients weighing < 120kg Zosyn 3.375g or 4.5g over 30 minutes x 1, then Zosyn 3.375g IV q 8h (each dose infused over 4 hours) Patients weighing ≥ 120kg Zosyn 4.5g over 30 minutes x 1, then Zosyn 4.5g IV q8h (each dose infused over 4 hours) | | | Exception: CrClearance < 20ml/min Extended infusion (over 4 hours) will NOT be done in the ED Refer to policy Adult Beta-lactam Extended Infusion |
| Cardiovascular | | | | |
| Omega 3 ethyl esters Vascepa, Epanova, Omtryg or any other prescription/OTC product | Generic Fish Oil (OTC) | | | Dose and frequency will be the same. For Omtryg round down to nearest gram; ie 4.8g rounds to 4g. |
| Nitroglycerin Sublingual 0.3mg or 0.6mg | Nitroglycerine Sublingual 0.4mg | | | |
| Buprenorphine | | | | |
| Subutex (buprenorphine) | Buprenorphine 2mg SL tab 1mg: 1mg conversion | | | Restricted to pregnant patients only. All others convert to buprenorphine/naloxone (dose based on buprenorphine). |
| Buprenorphine/naloxone sublingual film any dose/frequency | Buprenorphine/naloxone SL tab same dose/frequency | | | Films restricted to outpatient use |
| Buprenorphine/naloxone (Zubsolv) SL tabs 1.4mg/0.36mg any frequency | Buprenorphine/naloxone 2mg/0.5mg tab same frequency | | | |
| Buprenorphine/naloxone (Zubsolv) SL tabs 2.9mg/0.71mg any frequency | Buprenorphine/naloxone 4mg/1mg tab same frequency | | | |
| Buprenorphine/naloxone (Zubsolv) SL tabs 5.7mg/1.4mg any frequency | Buprenorphine/naloxone 8mg/2mg tab same frequency | | | |
| Buprenorphine/naloxone (Zubsolv) SL tabs 8.6mg/2.1mg any frequency | Buprenorphine/naloxone 12mg/3mg tab same frequency | | | |

| If Ordered | Interchange | Notes/Exceptions |
|--|---|---|
| Buprenorphine/naloxone (Zubsolv) SL tabs 11.4mg/2.9mg any frequency | Buprenorphine/naloxone 16mg/4mg tab same frequency | |
| <i>Electrolytes</i> | | |
| Potassium chloride 8mEq Tab any frequency Potassium chloride 10mEq cap any frequency | Potassium chloride 10mEq tab same frequency | |
| Potassium chloride 20mEq/15mL liquid any frequency | Potassium chloride 20mEq powder same frequency | |
| Potassium chloride 40mEq/15mL liquid any frequency | Potassium chloride 40mEq powder same frequency | |
| Calcium gluconate 2g mini-bags | Calcium gluconate 1g pigtail vial x 2 units | Only when the mini-bags are unavailable. |
| Magnesium 2g IV in 50ml over 1 hour | Magnesium 1g IV in 50ml over 30min x 2 | During 2g shortage only. |
| Magnesium L-lactate dihydrate (Mag-Tab SR) 84mg elemental Mg in each | Magnesium L-lactate dihydrate (Mag-Tab SR) as ordered | This product is the primary magnesium supplement Do not put down an enteral feeding tube SR = 12 hour timed release. Time once a day and separate for drug interactions. |
| Magnesium oxide (Mag-Ox) 241 elemental Mg in each | Magnesium oxide (Mag—Ox) as ordered | Can go down enteral feeding tube |
| Magnesium chloride (Slow-mag) Each tablet 64mg elemental Mg Per single tablet, any schedule | Magnesium L-lactate dihydrate (Mag-Tab SR) 1 tablet per day or BID based on number of Slow-mag tablets | Cannot put down an enteral feeding tube May dose once or twice daily depending on quantity and drug interactions |
| Magnesium gluconate (Magonate) 13.5mg elemental Mg per 250mg tab 250 to 1,500mg total daily dose > 1,500mg total daily dose | Magnesium L-lactate dihydrate (Mag-Tab SR) 1 tablet daily 2 tablets daily or 1 tablet twice daily | Cannot put down an enteral feeding tube May dose once or twice daily depending on quantity and drug interactions |
| All other magnesium products | Magnesium L-lactate dihydrate (Mag-Tab SR) Round to nearest dose based on elemental magnesium content. | Cannot put down an enteral feeding tube May dose once or twice daily depending on quantity and drug interactions |
| Calcium gluconate 1g IV | Calcium chloride 333mg IV | For duration of nationwide shortage only. |
| Sodium phosphate IV | Sodium glycerophosphate IV (Glycophos) | For duration of nationwide shortage only. Substitute on a mMol per mMol basis and infuse over 8 hours. Glycophos contains 1 mMol of phosphate per 1ml. It is incompatible with TPN, and must be mixed in saline and be infused in a dedicated line. |
| <i>Gastrointestinal/Genitourinary/Reproductive health agents</i> | | |
| Antacids (PO) | Convert any oral or chewable antacid to Tums | |

| If Ordered | Interchange | Notes/Exceptions |
|---|---|--|
| | chewable Convert any liquid antacid to Maalox liquid | |
| Amphojel | Aluminum Hydroxide gel | |
| Donnatal tablets & liquid Hyoscyamine sulfate 0.1037 mg, atropine sulfate 0.0194 mg, scopolamine hydrobromide 0.0065 mg, and phenobarbital 16.2 mg per tablet or per 5ml | Donnatal 1 tablet or 5ml PO autosub to hyoscyamine 0.125mg SL Donnatal 2 tablet or 10ml PO autosub to hyoscyamine 0.25mg SL | Orders for B & O Suppository: See Restricted Medication List |
| Docusate 50mg | Docusate 100mg | Odd doses will be rounded up to nearest 100mg. |
| Docusate 240mg cap PO daily | Docusate 100mg po daily | |
| Fleets enema | Mineral oil enema | Only for patients with CrCl < 40ml/min or age ≥ 70yo. |
| Gelusil (<i>Oral</i>) | Maalox Plus (<i>Oral</i>) | |
| Mesalamine (Asacol HD) 800mg Mesalamine (Asacol HD) 1600mg | Mesalamine (Apriso) 750mg Mesalamine (Apriso) 1500mg | |
| Mesalamine (Delzicol) 400mg Mesalamine (Delzicol) 800mg Mesalamine (Delzicol) 1200mg | Mesalamine (Apriso) 375mg Mesalamine (Apriso) 750mg Mesalamine (Apriso) 1500mg | |
| Mesalamine (Pentasa) 250mg Mesalamine (Pentasa) 500mg Mesalamine (Pentasa) 750mg Mesalamine (Pentasa) 1000mg Mesalamine (Pentasa) 1500mg | Mesalamine (Apriso) 375mg Mesalamine (Apriso) 750mg Mesalamine (Apriso) 750mg Mesalamine (Apriso) 1125mg Mesalamine (Apriso) 1500mg | Do not start the substitution until all SJH Inventory is depleted. |
| Methylnaltrexone (Relistor) SC 12mg | <u>CrCl < 60ml and</u> weight ≥ 62kg, convert to 6mg weight 38-62kg convert to 4mg No data for dialysis patients – call MD <u>Child Pugh Class C and</u> weight ≥ 62kg, convert to 6mg weight 38-62kg convert to 4mg | See Restricted Medication List |
| Methylnaltrexone (Relistor) PO 450mg qday | Methylnaltrexone (Relistor) subcutaneous q48h prn | Nonformulary, not stocked Patients on oral methylnaltrexone prior to admission may use POM. |
| Zofran (Ondansetron) (IV) 16mg or 32 mg | Kytril (Granisetron) (IV) 10mcg/kg or maximum 1mg Administered IV Push | In response to FDA alert that high dose Zofran is associated with QTc prolongation. The 32mg dose is no longer FDA approved. |
| Ondansetron 4mg or 8mg PO any frequency | Ondansetron ODT PO same dose/frequency | |
| Rifaximin (Xifaxin) 200mg any frequency | Rifaximin 550mg same frequency | |

| If Ordered | Interchange | Notes/Exceptions |
|---|---|---|
| Rifaximin (Xifaxin) 400mg TID Rifaximin 550mg (check indication) | HE Prophylaxis Rifaximin 550mg BID HE treatment (overt) Rifaximin 550mg TID | Pharmacist may convert rifaximin 550mg frequency based on indication |
| Mylanta | Maalox Plus | |
| Metamucil (psyllium) Capsule | Psyllium Packet | |
| Lactobacillus (any regimen) | Floranex or Lactinex 4 tabs PO TID | May sub any stocked lactobacillus at manufacturer suggested dose and frequency |
| Surfak (docusate) 240mg PO qday | Docusate 100mg PO qday | |
| Trimethobenzamide (Tigan) IM | Ondansetron 4mg IV Prochlorperazine 5mg IV | Ondansetron is the recommended substitution. If the patient has already received ondansetron, prochlorperazine is the alternate substitution. Patients without IV access may receive Ondansetron ODT 8mg by mouth or prochlorperazine IM. |
| <i>Hypnotic/Sleep Aids</i> | | |
| Melatonin 1 to 4mg Melatonin 5 to 7mg Melatonin ≥ 8mg | Melatonin 3mg USP only Melatonin 6mg USP only Melatonin 9mg USP only | Only USP labeled product will be used. No Patient's Own Medication allowed. |
| Zolpidem 5mg (Zolpimist, Edluar, Tovalt) Zolpidem CR (Ambien CR) 6.25mg Zolpidem 1.75mg (Intermezzo) Eszopiclone (Lunesta) 1mg, 2mg Ramelteon (Rozerem) 8mg Zaleplon (Sonata) 5mg, 10mg Suvorexant (Belsomra) 5, 10mg | Male < 70 yo Zolpidem 5mg Male ≥ 70 yo Zolpidem 5mg Female < 70 yo Zolpidem 5mg Female ≥ 70 yo Zolpidem 2.5mg | When substituting zolpidem for Intermezzo, the zolpidem must be administered at HS. |
| Zolpidem 10mg (Zolpimist, Edluar, Tovalt) Zolpidem CR (Ambien CR) 12.5mg Zolpidem 3.5mg (Intermezzo) Eszopiclone (Lunesta) 3mg Zaleplon (Sonata) 20mg Suvorexant (Belsomra) 20mg | Male < 70 yo Zolpidem 10mg Male ≥ 70 yo Zolpidem 5mg Female < 70 yo Zolpidem 5mg Female ≥ 70 yo Zolpidem 2.5mg | |
| Zolpidem & age related dose changes | See above. | No exceptions. The maximum FDA approved dose should not be exceeded. MDD Males = 10mg; Females = 5mg. Prescriber may offer a repeat dose if the first dose has failed, but the FDA MDD should never be exceeded. |
| Silenor (doxepin) and age < 75yo 3mg PO HS or 6mg PO HS | Doxepin capsule 10mg PO HS | |
| Silenor (doxepin) and age ≥ 75yo 3mg PO HS 6mg PO HS | Doxepin 10mg/ml PO solution 3mg PO HS 6mg PO HS | |
| <i>Topical Products</i> | | |
| Biofreeze; BenGay type products (menthol +/- methylsalicylate) | Analgesic balm (Menthol + Methylsalicylate) | |

| If Ordered | Interchange | Notes/Exceptions |
|--|---|--|
| Butoconazole (FemStat) Vaginal cream | Clotrimazole Vaginal cream | |
| Caladryl | Calamine Lotion | |
| Capsaicin topical any strength | Capsaicin 0.075% cream | |
| Nystatin Powder, Cream, Ointment | Clotrimazole 1% topical cream | Exceptions: Neonatal/pediatric patients (dispense nystatin) |
| Phisohex | Hibiclens | |
| Rectal preparation for hemorrhoids; itching. (ie analpram, analpram HC, tucks, anusol, anusol HC, preparation H, etc) | Dibucaine ointment | Should dibucaine ointment supply be affected , Pharmacy will substitute preparation H for rectal preparation for hemorrhoids/itching. |
| Pramoxine 1% (Proctofoam), ointment | Hydrocortisone 1% cream | |
| Selsun Blue | Selsun Lotion | |
| Terconazole (Terazol) Vaginal cream | Clotrimazole Vaginal cream | |
| Lindane 1% shampoo | Permethrin 1% (aka Nix) | For the scalp. Send application instructions with each dose. |
| Lindane 1% lotion | Permethrin 5% cream (Acticin, Elimite) | For the body. Send application instructions with each dose. |
| Fluori-methane spray | Pain Ease spray mist | |
| Terbinafine (Lamisil), Naftifine (Naftin), Butenafine (Mentax, Lotrimin Ultra), Tolnaftate (Tinactin), Econazole (Ecoza, Spectazole), Ciclopirox (Loprox), Luliconazole (Luzu), Sertaconazole (Ertcazo), Sulconazole (Exelderm) or any other topical (skin) antifungal not mentioned | Clotrimazole (Lotrimin) Cream 1% | |
| Corticosteroids, Topical | | |
| All other topical corticosteroids not listed in the interchange column are designated as non-formulary. Establish all topical corticosteroids as interchangeable products with regard to safety and efficacy. | | |
| Class I, Very High Potency Diflorasone (Apexicon, Psoracon) Halobetasol 0.05% (ie Ultravate,etc) Augmented betamethasone Dipropionate (Diprolene) 0.05% Oint, lotion, gel Diflorasone diacetate 0.05% Oint Fluocinonide 0.1% cream | Clobetasol Propionate (Temovate) ointment or cream 0.05% or solution Solution is Formulary, but not stocked. It may be ordered in if needed. | |

| If Ordered | Interchange | Notes/Exceptions |
|--|--|------------------|
| <p>Class II, High Potency Amcinonide 0.1% Augmented betamethasone Dipropionate 0.05% cream Betamethasone Dipropionate 0.05% Oint Desoximetasone (Topicort) 0.25% O, C & 0.05% gel Diflorasone diacetate 0.05% Cream Halcinonide (Halog) 0.1% C, O Triamcinolone acetonide 0.5% Oint</p> | <p>Fluocinonide 0.05% ointment</p> | |
| <p>Class III, Medium Potency Betamethasone Dipropionate 0.05% Cream, lotion Betamethasone valerate 0.1% C, O, L, Foam Clocortolone pivalate (Cloderm) 0.1% Cream Desoximetasone 0.05% Cream Fluocinolone acetonide 0.025% C, O Flurandrenolide 0.05% C, O, Tape Fluticasone propionate 0.05% Cream, 0.005% ointment, 0.05% lotion Hydrocortisone butyrate 0.1% C, O, Sol, lotion Hydrocortisone valerate 0.2% C, O Mometasone 0.1% Cream, Oint Prednicarbate 0.1% C, O Triamcinolone 0.025% C, O, lotion</p> | <p>Triamcinolone 0.1% cream Triamcinolone 0.1% ointment Triamcinolone 0.025% C,O,L & 0.5% C are nonformulary and converted to 0.1%.</p> <p>Mometasone furoate 0.1% soln Mometasone Solution is Formulary, but not stocked. It may be ordered in if needed. Mometasone cream & ointment are nonformulary.</p> | |
| <p>Class IV, Low Potency Alclometasone Dipropionate 0.05% C, O Desonide 0.05% C, O, Lotion, Gel, Foam Fluocinolone acetonide 0.01% C, oil, shampoo, solution Hydrocortisone 0.5% cream, ointment Hydrocortisone 2.5% C, O, lotion Hydrocortisone acetate 1% C, O Hydrocortisone 2.5% (Procto)</p> | <p>Hydrocortisone 1% ointment Hydrocortisone 1% cream</p> <p>Preparation H HC 1% cream</p> | |

| If Ordered | Interchange | Notes/Exceptions |
|---|---|---|
| <i>Pain Medications - General</i> | | |
| Tylenol (acetaminophen) product line | DC any order from the PTA med list | Limited to Tylenol products ordered on the Med Rec Form. |
| Aleve 220mg | Naprosyn 250mg | |
| Tylenol Arthritis 650mg ER | Tylenol Regular Strength (2 x 325 mg) | |
| Acetaminophen IV (Ofirmev) Dose < 1000mg convert to and Total daily dose > 3g converts to | Acetaminophen IV (Ofirmev) Dose: 1000mg Frequency q8h If ABW <50kg: dose = 15mg/kg rounded to nearest 5mg maximum 3 times a day (q8h) Acetaminophen PO (same dose/schedule) for same indication (ie pain or fever) suspension or oral tablet/capsule | As of March 27, 2019 IV acetaminophen is nonformulary and not stocked. See Restricted Medication List. |
| Excedrin product line (aspirin/acetaminophen) | DC any order from PTA med list | Limited to Excedrin products ordered on the Med Rec Form. |
| Percocet | Percocet 5/325 | |
| Lidocaine transdermal patch any strength/combination | Lidocaine 4% or 5% transdermal | @Sub regardless of lidocaine strength or other ingredients |
| Hydrocodone/APAP 5mg/any APAP strength 7.5/any APAP strength 10mg/any APAP strength | 5mg/325mg 7.5mg/325mg 10mg/325mg | |
| <i>Respiratory Medications</i> | | |
| Theophylline extended release Dose < 199mg per day | Theophylline liquid Total daily dose divided TID | Liquid must be administered 3 or 4 times a day because it is not a long acting dosage form. |
| Theophylline extended release (any) Dose ≥200mg q12h or q24 | Theophylline extended release Administer the same total daily dose at q12h or q24h intervals based on the home dose and frequency. Examples: #1 200mg q12h converts to 400mg ½ tablet q12h #2 450mg q24h converts to 300mg tab 1.5 tablets q24h | Theophylline extended release tablets are scored and may be split, but not crushed or chewed. Patients taking extended release dosage forms q8h may continue this regimen. Patients Own Medication (POM) will be allowed. If POM is not available immediately, the pharmacist will automatically substitute to a formulation that we stock (at the same total daily dose) until POM is supplied. |
| SABA | | |

| If Ordered | Interchange | Notes/Exceptions |
|--|---|---|
| <p>Albuterol MDI/DPI any frequency Ordered alone (no anticholinergic)</p> <p>Albuterol MDI/DPI prn (Med Rec form rule)</p> | <p>Albuterol neb sol 3ml same frequency</p> <p>Albuterol neb sol 3ml q4h prn</p> | <p>Exception 3-6/CPEP patients Patient's own medication (POM home inhaler) will be allowed.</p> <p>This is only for orders generated from a Medication Reconciliation form when the dose and/or frequency cannot be determined.</p> |
| <p>Levalbuterol neb sol or MDI/DPI PRN Ordered PRN Only (no anticholinergic)</p> <p>Levalbuterol MDI/DPI or neb sol Ordered as a scheduled dose (no anticholinergic)</p> | <p>Albuterol neb sol 3ml q6h PRN or more frequently if ordered more frequently</p> <p>Albuterol neb sol q6h while awake & q2h prn</p> | <ol style="list-style-type: none"> 1. Exception: NICU 2. CPEP/3-6 patients convert to albuterol MDI. 3. Patient's own medication (POM home inhaler) will be allowed. |
| LABA (neb) | | |
| <p>Brovana (arformoterol) 15mcg/2ml neb INH q12h</p> <p>Foradil (formoterol) 12mcg INH q12h</p> | <p>Perforomist (formoterol) 20mcg neb sol INH q12h</p> | <p>Foradil is no longer manufactured in the US. Conversion from Brovana to Perforomist will only occur after the Brovana inventory is depleted.</p> |
| LABA (MDI/DPI) | | |
| <p>Serevent (salmeterol) Striverdi (olodaterol) Arcapta (indacaterol)</p> | <p><u>Monotherapy</u> Perforomist (formoterol) 20mcg neb sol INH q12h</p> <p><u>Combo-therapy: w/LAMA or SABA</u> Duoneb RTQID</p> <p><u>Combo-therapy: w/ICS</u> Dulera 200 mcg/5mcg 2 INH BID</p> | <p>Exception 3-6/CPEP patients Patient's own medication (POM home inhaler) will be allowed.</p> <p>Conversion from Brovana to Perforomist will only occur after the Brovana inventory is depleted.</p> |
| SAMA – all MDI/DPI | | |

| If Ordered | Interchange | Notes/Exceptions |
|--|--|--|
| Ipratropium MDI/DPI any frequency Ordered alone (no beta agonist) | Ipratropium nebulizer same frequency | Exception 3-6/CPEP patients Patient's own medication (POM home inhaler) will be allowed. |
| SABA/SAMA – all MDI/DPI | | |
| Albuterol/Ipratropium (Combivent) | Duoneb albuterol/ipratropium nebulizer sol at the same frequency | Exception 3-6/CPEP patients Patient's own medication (POM home inhaler) will be allowed. |
| LAMA – all MDI/DPI | | |
| Tiotropium (Spiriva) Aclidinium (Tudorza) Umeclidinium (Incruse) Glycopyrrolate (Seebri) Plus any other new LAMA MDI/DPI | Default substitution Duoneb RTQID+albuterol q2h PRN Alternate substitution for prescribers who do not want the patient to receive a scheduled beta-agonist: Ipratropium neb RTQID+albuterol q2h PRN | Exception 3-6/CPEP patients will be converted to Spiriva handihaler. Patient's own medication (POM home inhaler) will be allowed. |
| LABA/LAMA – all MDI/DPI | | |
| Glycopyrrolate – formoterol (Bevespi Aerosphere) Umeclidinium – vilanterol (Anoro Ellipta) Tiotropium – olodaterol (Stiolto Respimat) Glycopyrrolate – indacaterol (Utibron Neohaler) Plus any other new MDI/DPI | Default substitution Duoneb RTQID+albuterol q2h PRN Alternate substitution for prescribers who do not want the patient to receive a PRN beta-agonist: Duoneb RTQID | Exception 3-6/CPEP patients Patient's own medication (POM home inhaler) will be allowed. |
| LABA/LAMA/ICS MDI/DPI | | |
| Trelegy (vilanterol, umeclidinium, fluticasone) Breztri Aerosphere (budesonide, glycopyrrolate, formoterol) All other triple therapy inhalers | Budesonide NEB BID plus DuoNEB RTQID | Exception 3-6/CPEP patients Patient's own medication (POM home inhaler) will be allowed. |
| ICS | | |
| Beclomethasone | Budesonide | Exception- COVID Patients/ Ventilated Patients |
| Qvar 40mcg 1 INH bid | | Asmanex HFA 200 mcg 1 INH Qday |
| Qvar 40mcg 2 INH bid | | Asmanex HFA 200 mcg 1 INH Qday |
| Qvar 80mcg 1 INH bid | | Asmanex HFA 200 mcg 1 INH Qday |
| Qvar 80mcg 2 INH bid | Budesonide 0.5mg/2mL via NEB BID | Asmanex HFA 200 mcg 1 INH BID |

| If Ordered | Interchange | Notes/Exceptions |
|---------------------------------------|----------------------------------|--|
| Qvar 80mcg 3 INH bid | | Asmanex HFA 200 mcg 1 INH BID |
| Qvar 80mcg 4 INH bid | | Asmanex HFA 200 mcg 2 INH BID |
| Budesonide | Budesonide | Exception- COVID Patients/Ventilated Patients |
| Pulmicort Flexhaler 90mcg 1 INH bid | Budesonide 0.5mg/2mL via NEB BID | Asmanex HFA 200 mcg 1 INH Qday |
| Pulmicort Flexhaler 90mcg 2 INH bid | | Asmanex HFA 200 mcg 1 INH Qday |
| Pulmicort Flexhaler 180 mcg 1 INH bid | | Asmanex HFA 200 mcg 1 INH Qday |
| Pulmicort Flexhaler 180 mcg 2 INH bid | | Asmanex HFA 200 mcg 1 INH BID |
| Pulmicort Flexhaler 180 mcg 3 INH bid | | Asmanex HFA 200 mcg 1 INH BID |
| Pulmicort Flexhaler 180 mcg 4 INH bid | | Asmanex HFA 200 mcg 2 INH BID |
| Ciclesonide | Budesonide | Exception- COVID Patients/Ventilated Patients |
| Alvesco 80mcg 1 INH BID | Budesonide 0.5mg/2mL via NEB BID | Asmanex HFA 200 mcg 1 INH Qday |
| Alvesco 80mcg 2 INH BID | | Asmanex HFA 200 mcg 1 INH BID |
| Alvesco 160mcg 1 INH BID | | Asmanex HFA 200 mcg 1 INH BID |
| Alvesco 160mcg 2 INH BID | | Asmanex HFA 200 mcg 2 INH BID |
| Fluticasone propionate | Budesonide | Exception- COVID Patients/Ventilated Patients |
| Flovent 44mcg 1 INH BID | Budesonide 0.5mg/2mL via NEB BID | Asmanex HFA 200mcg 1 INH Qday |
| Flovent 44mcg 2 INH BID | | Asmanex HFA 200mcg 1 INH Qday |
| Flovent 110mcg 1 INH BID | | Asmanex HFA 200mcg 1 INH Qday |
| Flovent 110mcg 2 INH BID | | Asmanex HFA 200mcg 1 INH BID |
| Flovent 220mcg 1 INH BID | | Asmanex HFA 200mcg 1 INH BID |
| Flovent 220mcg 2 INH BID | | Asmanex HFA 200mcg 2 INH BID |
| Flovent 50mcg 1 INH BID | | Asmanex HFA 200mcg 1 INH Qday |
| Flovent 50mcg 2 INH BID | | Asmanex HFA 200mcg 1 INH Qday |
| Flovent 125mcg 1 INH BID | | Asmanex HFA 200mcg 1 INH Qday |
| Flovent 125mcg 2 INH BID | | Budesonide 0.5mg/2mL via NEB BID |
| Flovent 250mcg 1 INH BID | | Asmanex HFA 200mcg 1 INH BID |
| Flovent 250mcg 2 INH BID | | Asmanex HFA 200mcg 2 INH BID |
| Fluticasone Furoate | Budesonide | Exception- COVID Patients/Ventilated Patients |
| Arnuity Ellipta 100mcg 1 INH qday | Budesonide 0.5mg/2mL via NEB BID | Asmanex HFA 200mcg 1 INH qday |
| Arnuity Ellipta 200mcg 1 INH qday | | Asmanex HFA 200mcg 2 INH qday |
| Flunisolide | Budesonide | Exception- COVID Patients/Ventilated Patients |
| Aerospan 80mcg 1 INH bid | Budesonide 0.5mg/2mL via NEB BID | Asmanex HFA 200mcg 1 INH qday |
| Aerospan 80mcg 2 INH bid | | Asmanex HFA 200mcg 1 INH qday |
| Aerospan 80mcg 4 INH bid | | Asmanex HFA 200mcg 1 INH BID |

| If Ordered | Interchange | Notes/Exceptions |
|---|---|--|
| Budesonide/Formoterol | Mometasone/Formoterol | |
| Symbicort 80mcg/4.5mcg 2 INH BID Symbicort 160mcg/4.5mcg 2 INH BID | Dulera 200 mcg/5mcg 2 INH BID | |
| Fluticasone prop./Salmeterol HFA | Mometasone/Formoterol | |
| Advair 45mcg/21mcg 2 INH BID Advair 115mcg/21mcg 2 INH BID Advair 230mcg/21mcg 2 INH BID | Dulera 200mcg/5mcg 2 INH BID | |
| Fluticasone furoate/Vilanterol | Mometasone/Formoterol | |
| Breo Ellipta 100mcg/25mcg 1 INH daily Breo Ellipta 200mcg/25mcg 1 INH daily | Dulera 200 mcg/5mcg 2 INH BID | |
| Fluticasone/Salmeterol Diskus | Mometasone/Formoterol | |
| Advair DPI 100mcg/50mcg 1 INH BID Advair DPI 250 mcg/5mcg 1 INH BID Advair DPI 500mcg/50mcg 1 INH BID | Dulera 200 mcg/5mcg 2 INH BID | |
| Mometasone/Formoterol | Mometasone/Formoterol | |
| Dulera 100mcg/5mcg any dose | Dulera 200mcg/5mcg 2 INH BID | |
| <i>Vitamins/Elements/Minerals</i> | | |
| Calcium Calcium + D | Calcium 500mg Calcium 500mg + D | Calcium carbonate (Tums) will be dispensed if the patient is allergic to Oyster shell calcium. |
| Calcium gluconate 2g mini-bags | Calcium gluconate 1g pigtail vial x 2 units | Only when the mini-bags are unavailable. |
| Centrum Silver, any therapeutic multivitamin w/mineral | Daily-vite | |
| Folic acid 400mcg | Folic acid 0.5mg (500mcg) | |
| Folbee; Folbee Plus Diatx; Foltx; Nephrovite | Renavite (generic) | |
| Multivitamin (IV MVI) for TPN (adult), ordered daily | IV MVI in TPN only on Mon Wed Fri | This is only in effect when there is an adult injectable MVI shortage |

| If Ordered | Interchange | Notes/Exceptions |
|---|--|--|
| <p>Iron sucrose (Venofer) In-patient < 100mg IV 100 – 200mg IV > 200mg IV</p> <p>Iron sucrose (Venofer) Out-patient orders (ortho, blood conservation)</p> <p>Sodium Ferric Gluconate (Ferrlecit) Ordered outside of restrictions</p> | <p>Sodium Ferric Gluconate (Ferrlecit) 62.5mg IV 125mg IV 125mg IV x 2 doses (48 hours apart)</p> <p>Iron sucrose (Venofer) Out-patient orders will not be substituted.</p> <p>Sodium Ferric Gluconate (Ferrlecit) Automatically revise order to reflect restrictions described in the Restricted Medication List.</p> | <p>See Restricted Medication List</p> <ol style="list-style-type: none"> 1. Iron dextran 500mg or 1g may be ordered by prescribers instead of ferric sodium gluconate. 2. Non-hemodialysis in-patients with hip fracture: Ferrlecit 125mg IV day of admission (day of surgery); Ferrlecit 125mg every IV 48 hours. 3. Non-hemodialysis/non-hip fracture in-patients: Ferrlecit 62.5mg or 125mg IV q48hours. 4. Hemodialysis in-patients: Ferrlecit 62.5mg or 125mg IV q48 hours. Maximum 1g per admission but only if the patient has an extended length of stay. |
| <p>Niferex 150; Ferrex 150 Ferrex 150 Forte Ferrex 150 Forte Plus Ferrogel; Slow Fe; Hematinic Forte Any long acting or nonformulary (ie fumarate) iron supplement</p> | <p>Ferrous sulfate 324/5mg tablet, once or twice a day (or every other day) based on the home regimen.</p> | <p>Maximum 324/325mg twice daily. Doses of more than 1 tablet at a time will be automatically reduced to one tablet. All oral iron products (including liquid) will be discontinued while the patient is taking antibiotics with a cation-drug-drug interaction. This does not apply to products used as phosphate binders (ie ferric citrate).</p> |
| <p>Iron Tablets</p> | <p>Ferrous Sulfate 325 mg tablets</p> | <p>Maximum 324/325mg twice daily. Doses of more than 1 tablet at a time will be automatically reduced to one tablet. All oral iron products (including liquid) will be discontinued while the patient is taking antibiotics with a cation-drug-drug interaction. This does not apply to products used as phosphate binders (ie ferric citrate).</p> |
| <p>Vitamin A 1 tab/cap</p> | <p>Ocuvite 1 qday</p> | <p>A=14,320 units; E=200 units; C 226mg, Zn, Cu</p> |
| <p>Vitamin B1 (thiamine)</p> | <p>Vitamin B1 (thiamine) 100mg qday</p> | |
| <p>Vitamin B6 (pyridoxine)</p> | <p>Vitamin B6 (pyridoxine) 50mg qday</p> | |
| <p>Vitamin B12 (cyanocobalamin)</p> | <p>Vitamin B12 500mcg PO daily</p> | |
| <p>Any B Vitamin</p> | <p>Vitamin B & C Complex 1 tab qday</p> | |
| <p>Vitamin C</p> | <p>Vitamin C 500mg qday</p> | |
| <p>Vitamin D ordered qday</p> | <p>Vitamin D 400 units qday</p> | |
| <p>Vitamin D 50000 units (D2 or D3) q week/q2 week/q month</p> | <p>Vitamin D3 50,000 units (or D2 based on availability)</p> | <p>Schedule next dose based on frequency of order. Q week – schedule for 1 week after admission Q 2 weeks -- schedule for 2 weeks after admission Q month -- schedule for 1 month after admission</p> |
| <p>Vitamin E</p> | <p>Vitamin E 400 units qday</p> | |
| <p>Vitamin K (phytonadione) PO 2mg or 3mg</p> | <p>Vitamin K (phytonadione) PO 2.5mg</p> | |
| <p>Vitamin K (phytonadione) PO 4mg</p> | <p>Vitamin K (phytonadione) PO 5mg</p> | |

| If Ordered | Interchange | Notes/Exceptions |
|--|---|---|
| Multitrace 4 Neonatal IV 0.2ml/kg qday | Multitrace 4 Pediatric IV 0.3 ml/kg qday; frequency limited to two times a week only if both formulation(s) on shortage | This is only in effect when there is a neonatal and pediatric trace element shortage. If twice weekly restriction implemented, standard days will be Tuesdays and Fridays |
| Trace elements IV Adult ordered daily in TPN | Multitrace 5 IV Adult 2.5ml two times a week only, begin on Day 8 of TPN OR Multitrace concentrate 1ml two times a week only, begin on Day 8 of TPN | This is only in effect when there is an adult trace element shortage or when Multitrace concentrate is in use. |
| <i>Ear (Otic) drops</i> | | |
| Neomycin-polymyxinB-hydrocortisone (Cortisporin) Ear drops | Neomycin/Polymyxin B/Dexamethasone 0.1% Eye drops | Dose/Frequency is the same |
| Neomycin-colistin-hydrocortisone-thonzonium (Cortisporin TC, Coly-Mycin-S) Ear drops | Neomycin/Polymyxin B/Dexamethasone 0.1% Eye drops | Dose/Frequency is the same |
| Ciprofloxacin 0.3%/ Dexamethasone 0.1% Ear drops | Tobramycin 0.3%/Dexamethasone 0.1% Eye drops | Dose/Frequency is the same |
| Ofloxacin 0.3% Ear drops | Ofloxacin 0.3% Eye drops | Dose/Frequency is the same |
| <i>Eye (Ophthalmic) drops</i> | | |
| Allergy eye drops Olopatadine (Pataday, Patanol) Alcaftadine (Lastacaft) Bepotastine (Bepreve) Epinastine (Elestat) Emdastine (Emadine) or any other prescription product | Azelastine eye drops 1 drop to affected eye(s) BID | Ketotifen (generic) eye drops are Formulary & are not part of an automatic substitution. |

| If Ordered | Interchange | Notes/Exceptions |
|--|--|--|
| <p>NSAIDs Bromfenac 0.07% (Prolensa) 0.075% (Bromsite) 0.09% (Xibrom)</p> <p>Diclofenac 0.1% (Voltaren)</p> <p>Flurbiprofen 0.03% (Ocufen)</p> <p>Ketorolac 0.5% (Acular, brand name) 0.4% (Acular LS) 0.45% (Acuvail)</p> <p>Nepafenac 0.3% (Llevro) 0.1% (Nevana)</p> | <p>Ketorolac 0.5% (EYE) QID</p> <p>The nonformulary eye drops are dosed 1 to 4 times a day. All dosing schedules will be converted to ketorolac 0.5% QID.</p> | <p>In the event of a ketorolac 0.5% shortage, all ophthalmic NSAIDs will be automatically substituted to diclofenac QID.</p> |
| <p>betaxolol (Betoptic S)0.25% Eye Susp 1 or 2 drop(s) to affected eye(s) BID levobunolol (Betagan)0.25% Eye Sol 1 or 2 drop(s) to affected eye(s) BID Metipranolol (OptiPranolol) 0.3% Eye Sol 1 drop to affected eye(s) BID Timolol (Timoptic) 0.25% Eye Gel 1 drop to affected eye(s) daily Timolol hemihydrate (Betimol) 0.25% Eye Sol 1 drop to affected eye(s) BID</p> | <p>Timolol 0.25% eye sol same drop(s)/eye(s) BID</p> | |
| <p>levobunolol (Betagan) 0.5% Eye Sol 1-2 drops to affected eye(s) daily</p> | <p>Timolol 0.5% eye sol 1 drop to affected eye(s) daily</p> | |
| <p>Timolol (Timoptic) 0.5% Eye Gel 1 drop to affected eye(s) daily betaxolol (Betoptic S)0.5% Eye Susp 1 or 2 drop(s) to affected eye(s) BID Carteolol (Ocupress) 1% Eye Sol 1 drop to affected eye(s) BID Timolol hemihydrate (Betimol) 0.5% Eye</p> | <p>Timolol 0.5% eye sol 1 drop to affected eye(s) BID</p> | |

| If Ordered | Interchange | Notes/Exceptions |
|---|--|---|
| Sol 1 drop to affected eye(s) BID | | |
| Brimonidine-Timolol (Combigan) 0.2%-0.5% Eye Sol 1 drop to affected eye(s) BID | Timolol 0.5% eye sol 1 drop to affected eye(s) BID and brimonidine 0.2% eye sol 1 drop to affected eye(s) BID | |
| Bimatoprost ophthalmic to affected eye(s) daily Latanoprost ophthalmic to affected eye(s) daily Travoprost ophthalmic to affected eye(s) daily Unoprostone ophthalmic to affected eye(s) daily | Latanoprost 0.0005% ophthalmic solution to affected eye(s) daily at same time | |
| <i>Gentamicin Ophthalmic Products</i> | | |
| Gentamicin 0.3% ointment; any dose/frequency | Gentamicin 0.3% drops; instill 2 drops into affected eye(s) every 4 hours. | |
| <i>Miscellaneous</i> | | |
| Methylprednisolone sodium succinate Solu-medrol 60mg IV x 1 or once or now Solu-medrol 60mg IV q6h Solu-medrol 60mg IV q8h Solu-medrol 60mg IV q12h | Solu-medrol 80mg IV x 1 or once or now Solu-medrol 80mg IV q8h Solu-medrol 80mg IV q12h Solu-medrol 40mg IV q8h | |
| Enoxaparin for patients < 45kg 30mg or 40mg for DVT prophylaxis only | Heparin 5,000 units SC q12h | |
| Glucose oral tablets | Glucose oral liquid (same dose/frequency) | <ol style="list-style-type: none"> 1. Tablets may be used in bariatric surgery patients less than 3 months post-op 2. Maintain glucose gel on formulary as option for management of neonatal hypoglycemia 3. Substitute Glucose gel during shortages |
| Pegfilgrastim (all biosimilars, Udencya, Neulasta except Onpro) | Pegfilgrastim (Fulphila) Same dose/route | Fulphila & Neulasta Onpro Kit formulary for outpatient only Neulasta (standard injection) should only be used outpatient in situations that Fulphila is not covered by a patient's insurance. See Restricted Medication List |
| Filgrastim 300mcg inj daily with supper | Tbo-filgrastim 300mcg inj daily with supper | |
| Filgrastim 480mcg inj daily with supper | Tbo-filgrastim inj 480mcg daily with supper | |
| Recombivax and Recombivax HD (hepatitis B vaccine) | Engerix B | Consult package insert, up to date or the CDC for appropriate dosing. |
| N-acetylcysteine Oral | Nonformulary. No substitution. Pharmacist will automatically discontinue | See Restricted Medication List for more information. Exception: N-acetylcysteine Oral is Formulary for acetaminophen overdose. |

| If Ordered | Interchange | Notes/Exceptions |
|---|--|---|
| N-acetylcysteine IV (Acetadote) | Pharmacist will automatically dose adjust to maximum FDA approved dose. | Per FDA & Poison Control Guidelines. See Restricted Medication List. |
| PPD | PPD 5 TU Purified Protein Derivative 5 Tuberculin units | |
| Colchicine 0.5mg tablets (no longer available) | Colchicine 0.6mg | |
| Adacel (dTaP) | Boostrix (dTaP) | During the nation-wide shortage of Adacel, Boostrix will be substituted. |
| Pamidronate IV (any dose) | Zoledronic acid IV 4mg | Indication: Hypercalcemia. Zoledronic acid (Reclast) for annual infusion for osteoporosis remains nonformulary. |
| Recothrom 5,000 & 20,000 unit vials (thrombin, recombinant) | Bovine thrombin 5,000 vials | Vials are dispensed & opened when needed (ie don't open all 4x5,000vials at once) |
| Conjugated estrogens, (Premarin) PO only 0.45mg 0.625mg 1.25mg | Conjugated estrogens, (Premarin) PO only 0.3mg 0.6mg 1.2mg | Only 0.3mg PO is stocked POM allowed Prempro patients should get Premarin and Provera, if POM is not used |
| Coumadin (warfarin) | Warfarin (generic UD) | |
| Phosphate Binders | | |
| Sevelamer HCl (Renagel) | Sevelamer carbonate (Renvela) | Convert on a 1:1 basis. |
| Sucroferric oxyhydroxide 500mg (Velphoro) | Sevelamer carbonate (Renvela) 1600mg | Keep the same frequency |
| Erythropoietin Stimulation Agents (ESA) aka EPO, Retacrit (formulary) and Procrit, Epogen, Aranesp, Mircera (all 4 nonformulary) | | |
| ESA General principles | See Restricted Medication List for all requirements | Follow rounding described below. In addition, basic rounding principles apply. For example if the dose calculates to 2,600 units, round to 3,000 units. If the dose calculates to 5,400 units, round to 5,000 units. |
| 1. IF Continuation exceeds out-pt dose | 1. Adjust to out-patient dose | |
| 2. Dose escalation may not occur for at least 2 weeks. | 2. Adjust start date of dose increase out 2 weeks from last dose change. | Minimum dose dispensed will be 2,000 units |
| 3. The dose may be escalated by no greater than 25% every 2 weeks. | 3. Adjust dose change to maximum 25% | |
| 4. New start doses limits | 4. Adjust new start doses per policy: | |
| | a. HD patients | |
| | Hgb 8-9.9 g/dL: 25 units/kg TIW | |
| | Hgb < 8g/dL: 50 units/kg TIW | |
| | b. nonHD/PD patients | |

| If Ordered | Interchange | Notes/Exceptions |
|---|--|--|
| | Hgb 8-9.9 g/dL: 16.7 units/kg TIW | |
| | Hgb < 8g/dL: 33.3 units/kg TIW | |
| 5. Hold for Hemoglobin > 11. | | |
| 6. Orders for IV administration will be converted to SC. | | |
| 7. Q week (or other extended duration administrations) doses will be timed for 1 week (or other extended time) from the last dose | | |
| 8. Always check MedRec form first to see if the patient is on Mircera or Aranesp | | |
| Aranesp (Darbepoetin) 40mcg subcutaneous q week 60mcg subcutaneous q week 100mcg subcutaneous q week > 100mcg subcutaneous q week | Erythropoietin (Retacrit) 10,000 units subcu once a week 10,000 units subcu twice a week 10,000 units subcu 3 times a week 20,000 units subcu 3 times a week | Conversions of doses > 100mcg/week must be reviewed by the Pharmacy department. Since not all doses/frequencies can be presented here, alternative schedules should be converted based upon dosing logic and frequency See Restricted Medication List for all requirements |
| Retacrit for Non-hemodialysis patients (Continuation orders) | | |
| Procrit or Epogen (Erythropoietin) 20,000 units subcutaneous q week 20,000 units subcutaneous q 2 wk 40,000 units subcutaneous q week 40,000 units subcutaneous q 2 wk >60,000 units subcutaneous q week | Retacrit (Erythropoietin) 10,000 units subcutaneous 2x/week 10,000 units subcutaneous qweek 10,000 units subcutaneous 3x/week 10,000 units subcutaneous 2x/week 20,000 units subcutaneous 3x/week | Blood Conservation Out-patient orders will not be substituted. Conversions of doses > 40,000 units/week must be reviewed by the Pharmacy department. Since not all doses/frequencies can be presented here, alternative schedules should be converted based upon dosing logic and frequency See Restricted Medication List for all requirements |
| Mircera Patients | | |
| Mircera (peg-epoetin beta) or any Epogen/Procrit order in a patient getting Mircera at out-pt dialysis | Retacrit based upon notes (to the right) and dosing below | Check MedRec Form and Mircera Patient Transfer Information Sheet. Information sheet is faxed from out-pt dialysis to AKU. |
| Mircera 50mcg q 4 weeks | Start date is when NEXT Mircera dose is due. EPO 2,000 units twice weekly Subcu | AKU faxes Information sheet to pharmacy. When Information sheet arrives in pharmacy: |
| Mircera 75mcg q 4 weeks | EPO 2,000 units three times a week Subcu | 1. Does pt have active EPO order? |
| Mircera 200mcg q4 weeks | EPO 8,000 units three times a week Subcu | 2. If yes – make sure start date & conversion dose is correct. |
| | | a. If not correct, revise the dose and start date automatically |

| If Ordered | Interchange | Notes/Exceptions |
|---|---|---|
| Mircerca 30mcg q2 weeks | EPO 2,000 units three times a week Subcu | b. If no – add Mircerca dose, frequency & last dose |
| Mircerca 50mcg every 2 weeks | EPO 3,000 units three times a week Subcu | to Medication Reconciliation list. |
| Mircerca 60mcg q2 weeks | EPO 4,000 units three times a week Subcu | c. If the Mircerca information sheet states there will be a new |
| Mircerca 75mcg q 2 weeks | EPO 5,000 units three times a week Subcu | dose at the next administration, add that |
| Mircerca 100mcg every 2 weeks | EPO 8,000 units three times a week Subcu | information to the rounding note [RxSnapshot] |
| Mircerca 150mcg q2 weeks | EPO 12,000 units three times a week Subcu | (ie Mircerca 100mg q2weeks last Dose date XX, |
| Mircerca 200mcg q2 weeks | EPO 20,000 three times a week Subcu | next dose due date Y will be Mircerca 150mcg) |
| Mircerca 225mcg q 2 weeks | EPO 20,000 three times a week Subcu | 3. The rest of the usual EPO processes apply |
| | | No information sheet? Contact the AKU. |
| Since not all doses/frequencies can be presented here, alternative schedules should be converted based upon dosing logic and frequency. | | |
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DOCUMENT CONTROL TRACKING FILE

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| Title: Therapeutic Substitution | |
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| Reviewed by the following: | |
| Pharmacy & Therapeutics | Date: 1/04 1/05 4/05 1/06 4/07 1/08 1/09 4/18 2/19 2/23 |
| Medical Departments | Date: 6/07 |
| Executive Committee of the Medical Staff | Date: 9/05 4/06 8/06 6/07 |
| NRED | Date: 10/05 |
| Lisa Avery, Pharmacist | Date: 7/06 2/20 |
| Manager, Pharmacy – Jay Casper | Date: 1/09 2/09 |
| Drug Information Pharmacist – Karen Whalen | Date: 5/11 9/11 12/11 2/12 3/12 6/12 7/12 10/12 12/12 1/13 6/13 10/13 4/14 6/14 8/14 10/14 11/14 1/15 3/15 6/15 10/15 1/16 3/16 4/16 6/16 7/16 12/16 2/17 3/17 4/17 6/17 10/17 1/18 4/18 6/18 10/18 11/18 2/19 3/19 6/19 8/19 9/19 11/19 2/20 3/20 4/20 5/20 6/20 9/20 3/21 5/21 |
| Coordinator, Pharmacy - Kathleen LaParne | Date: 2/13 2/14 |
| Manager, Pharmacy – Kathleen LaParne | Date: 1/19 2/19 3/20 6/20 |
| Coordinator, Pharmacy - Kristin Bradshaw | Date: 4/20 |
| Coordinator, Pharmacy – Nicholas Mayers | Date: 2/23 |
| Director for Pharmacy | Date: 2/20 3/20 4/20 6/20 11/21 1/22 2/22 |
| Manager, Pharmacy | Date: 8/21 9/21 12/21 1/22 2/22 5/22 10/22 |
| Administrative Approvals: | |
| Philip Falcone, MD Chief Medical Officer | Yuri Pashchuk, MSN, RN, CCRN-K Chief Nursing Officer |
| Additional Approvals: | |
| Education: | |
| Monthly policy/procedure update: 10/06 1/09 9/10 11/10 1/11 2/11 3/11 9/11 12/11 3/12 4/12 12 7/12 11/12 12/12 2/13 3/13 7/13 8/13 11/13 12/13 3/14 4/14 6/14 8/14 10/14 12/14 2/15 3/15 4/15 7/15 9/15 11/15 2/16 3/16 4/16 6/16 7/16 1/17 3/17 4/17 6/17 11/17 2/18 5/18 6/18 10/18 12/18 1/19 2/19 4/19 6/19 8/19 9/19 10/19 12/19 3/20 4/20 5/20 6/20 10/20 4/21 6/21 8/21 9/21 11/21 12/21 2/22 3/22 5/22 8/22 10/22 | |
| Additional: 2/06 Memorandum from Karen Whalen, RPh, BCPS | |
| Revisions: 1/04 Revision reflects substitutions of: PPD with PPD 5Tu, Nystatin will be substituted with Lotrimim, and DueNeb with Ipratropium& Albuterol 1/05 Added fenofibrate (Tricor) , Lindane and Lactobacillus. Deleted Oflaxacin as an exception for substituting Levofloxacin for any Quinolone. 7/05 Policy revised to better utilize ciprofloxacin PO for appropriate indications at a 28 times cost savings/day. 8/05 Cefotetan 1-2g will be interchanged with Cefoxitin 1-2g and Cefotetan 1-2g IV q12h will be interchanged with Cefoxitin 1-2g IV q6h. | |

10/05 Revised to better utilize ciprofloxacin PO. Any oral quinolone, including levofloxacin, prescribed for a documented gram negative UTI will be automatically converted to oral ciprofloxacin.

1/06 Pharmacist may substitute loratadine (Claritin) when desloratadine (Clarinex) is prescribed for adult and pediatric patients. This will result in cost savings to the patient and the hospital.

4/06 Automatically substitute sodium chloride nasal spray for any nasal steroid order. Ambien CR, Lunesta, Rozerem, & Sonata will be automatically substituted with Ambien 5mg or 10mg.

Automatic order from Patient's Own Medication (POM)

8/06 Insulin Injection Formulary Automatic Therapeutic Substitution Policy revised: Stock only ONE product from each class of insulin. Use different brand names and manufacturers to reduce the likelihood of mix-ups & med errors. Use Automatic Therapeutic Substitution to manage orders for all other nonformulary insulins. Lente & Ultralente insulins have been discontinued by the manufacturer.

Levalbuterol Nebulized (Xopenex) tid/q8h vs. quid/q6h Automatic Therapeutic Substitution Policy revised: Levalbuterol nebulized will be automatically converted to a q8h freq. (for orders q6h or more frequent) or TID (for QID orders). Respiratory therapists will re-write or "sticker" the order conversion to facilitate communication and pharmacy order entry. Prn orders for breakthrough symptoms (wheezing, dyspnea) would remain as ordered. Orders which include only prn frequency would remain as ordered (i.e., q4h prn)

8/07 Added strengths for H2s, changed PPIs, hydrocodone/APAP, added therapeutic multivitamins w/minerals, folic acid, calcium, Aleve & Tylenol arthritis.

1/08 Aranesp nonformulary & now converted to Epogen/Procrit. Weekly Procrit converted to 3 times a week.

1/09 Added levocetirizine.

2/09 Added temporary Toprol XL substitution due to nationwide recall and shortage.

2/09 Added temporary Imdur substitution d/t nationwide recall and shortage.

3/09 Ended Imdur substitution

7/09 Nasal Steroids

10/09 Removed temporary Toprol XL, Imdur, Duoneb & see August 2009 & October 2009 P&T News.

11/09 All products will contain only 325mg acetaminophen per tablet

3/10 Updated to include Respiratory Therapy automatic substitution protocols, Ranitidine for allergic reactions, colchicines 0.5mg, Zosyn 4hr infusion.

6/10 fenofibrates, pancreatic enzymes

7/10 Change under Gastrointestinal - Lipase / Protease / Amylase

9/10 Change Kapidex to Dexilant (aka Kapidex)

11/10 Added Rosiglitazone (Avandia) under Miscellaneous

1/11 Added Fleets enema, many vitamins, antihistamines, OTC ASA & APAP, albuterol/levalbuterol without dose/freq, trimethobenzamide. Change Procrit or Epogen (Erythropoietin) to Non-hemodialysis patients and then added a new section for Hemodialysis patients.

2/11 Added Foradil (formoterol) under Respiratory due to shortage

2/23/2011 PPI changed to pantoprazole; Remove Plavix/Pepcid; Nitro sublingual

5/11 Venofer shortage, added Ferrlecit.

6/11 Added rosuvastatin, changed zolpidem, many modifications to respiratory med section.

6/11 Updated Levalbuterol

9/11 Added Ferrlecit to Venofer autosub; Removed Venofer to Ferrlecit because shortage is over, tried to make respiratory vs pharmacy substitutions more clear.

12/11 Deleted Foradil to Brovana, Added Perforomist to Brovana, Added Vit B12 (no dose)

2/12 Zofran shortage so Kytril will be substituted for Oncology patients.

3/12 Reglan shortage so Ortho & Spine forms will be revised with prn or PO.

3/12 Updated Metoclopramide substitution

3/12 P & T changes: Topical corticosteroids,

6/12 Added "Orders for IV administration will be converted to SC>" under Procrit or Epogen for Hemodialysis Patients heading in chart

7/12 Replaced Notes/Exceptions for Zofran to "In response to FDA alert that high dose Zofran is associated with QTc prolongation. The 32mg dose is no longer FDA approved."

10/12 Added more zolpidem products; added simvastatin interacting agents; revised pataday/patanol; added dibucaine/preparation H.

12/12 Removed dibucaine/Preparation H; added calcium gluconate 2g IV minibags.

1/13 Added N-acetylcysteine PO nonformulary status & automatic substitution.

2/13 Interchange Humulin R for Novolin R orders

3/13 Zolpidem, simvastatin/dronedarone, Qvar, Nystatin, pramoxine, topical antifungals, fluticasone diskus – P&T changes

3/13 Due to nationwide shortage Kphos IV & calcium IV have been revised

6/13 Combivent MDI to neb, IV MVI shortage, renal vitamins, renal vitamins + iron, Biofreeze/bengay, docusate, removed metoclopramide IV since shortage is over.

8/13 Adult trace elements, Pediatric trace elements, Tucks ointment to dibucaine – all because of shortages.

10/13 Zosyn for > 120kg, enoxaparin for < 45kg, Lumigan eye drops, Mesalamine PO, magnesium IV (shortage), Glycophos (shortage)

12/13 Adacel/Boostrix (shortage), pamidronate (nonformulary), hemorrhoid products (formulary streamline)

2/14 Preparation H will be used as an alternative for hemorrhoid products, should dibucaine supply be interrupted

3/14 Added Acetadote max dose & filgrastim (Neupogen/Granix).

4/14 Added Luliconazole (Luzu), Sertaconazole (Ertcazo), Sulconazole (Exelderm) or any other topical (skin) antifungal not mentioned substitution to clotrimazole

6/14 Revised PPI substitution during the pantoprazole shortage

8/14 Removed 2.5mg/any strength and 2.5mg/500mg under *Pain Medications – Hydrocodone/Acetaminophen* - no product exists any longer.

10/14 Vancomycin PO dosing, vancomycin First dose, metronidazole frequency

11/14 Multitrace for Adults, PPI (PO pantoprazole) shortage resolved, returned back to original substitution; removed Timentin – no longer manufactured.

1/15 Mupirocin (topical vs nasal), levofloxacin IV (vs Moxifloxacin IV)– these are due to shortages and are ONLY active if there is no inventory. Mupirocin is not in effect at this time. Levofloxacin is active at this time. Both will be rescinded as soon as shortage is resolved.

3/15 Removed levofloxacin-moxifloxacin due to shortage from 1/2015 since shortage is over. Suvorexant (Belsomra) added.

3/26/2015: PPI/H2 antagonist sections revised due to Protonix IV shortage (key words pantoprazole, esomeprazole, famotidine)

6/15 Allergy eye drops: Ketotifen, azelastine, Olopatadine (Pataday, Patanol); Alcaftadine (Lastacft); Bepotastine (Bepreve); Epinastine (Elestat); Emdastine (Emadine); Omega 3-etyl esters: Vascepa, Epanova, Omtryg; Lovaza; long acting insulin, rapid acting insulin, arformoterol/formoterol clarification.

7/15 Quinolones, Proton pump inhibitors (continuous infusion nonformulary; IV only for GI bleed, H2 antagonists (ranitidine syrup instead of prevacid solutab), Trace elements (Addamel no longer needed, Multitrace available)

10/15 Revised Toujeo to Lantus conversion from 1:1 to 1:0.8. Added Mircera (peg-epoetin beta)

1/16 Revised filgrastim products Neupogen & Granix

3/16 Inhalers (corticosteroid, corticosteroid/LABA combination) – major revision; pancrelipase – editorial revision

3/16 Inhalers – editorial revision Asmanex 100 to 110 and 200 to 220

4/16 P & T items from Feb & March: Humalog U200, Tresiba, Spiriva respimat, rosuvastatin, pitavastatin

4/16 Urgent shortage – Solu-medrol IV

6/16 Foradil converts to Brovana. Breo Ellipta 200mcg

7/16 Updated Inhalers to exclude Asmanex 110 or 100 and to include conversions for Aerospan and Arnuity Ellipta.

12/16 IV Iron formulary (Venofer, Ferrlecit) revised; Dulera 100 removed; solu-medrol 1 time doses added, IV Phos removed (shortage over).

2/17 Adult trace conservation to be implemented during periods of shortage. Lipase conversion to use Creon brand capsules from Zen-pep capsules. Clarification of adult MVI conservation in TPN during shortage.

3/17 Tresiba adjusted based upon Endocrinologist recommendation and P & T approval. Dulera clarified by adding conversion from 100/5 strength to 200/5 strength.

4/17 New pancrelipase dosing substitution, editorial revision pitavastatin

6/17 Otic autosubs, rifaximin, Epogen/Procrit

10/17 Donnatal (belladonna, hyoscyamine, scopolamine, atropine, phenobarbital); Paxil CR (paroxetine); EPO rounding clarification

1/18 Removed respiratory procedure, revised SABA, SAMA, LABA/LAMA autosubs, revised ESA/EPO

4/18 Added or revised Moduretic, Triavil, Avodart, fenofibrates, Keppra, Altoprev, Diclegis, pyridium, Coreg CR, Surfak, Soliqua, Recothrom, betaxolol, timolol, carteolol, levobunolol, metipranolol, Lumigan, Zioptan, Travantan, Rescula, Comgiban, Silenor, Rhogam, Trelegy, Striverdi, Arcapta. Other editorial changes were made (locations, headers). Revised antacids and LAMA (+albuterol q2h prn).

6/18 Revised Ofirmev (acetaminophen) IV maximum 3g/day (1g q8h).

10/18 Added Glycophos as a substitute for Sodium Phosphate during nationwide shortage.

11/18 Revised all insulins to align with Trinity Formulary; APAP PO, oral cephalosporin class (1st, 2nd, 3rd generation), Juluca (dolutegravir, rilpivirine); phosphate binders – sevelamer, sucroferric oxyhydroxide, fluvastatin, topical

corticosteroids

1/19 Updated pediatric trace element shortage information to include Multitrace twice weekly dosing.
 1/19 Updated pediatric trace elements to neonatal Multitrace 0.2 ml/kg as the standard product, pediatric trace elements the therapeutic alternative if shortage. Removed Peditrace reference (removed from market).
 2/19 Added nystatin suspension substitution to clotrimazole troches for adult, non-intubated patients.
 3/19 IV acetaminophen (Ofirmev) is nonformulary, not stocked; removed APAP 1g to 3x325mg because we have 500mg in stock now; added methylnaltrexone (Relistor); added theophylline, hepatitis B vaccine.
 6/19 Relpax (eletriptan), Amerge (naratriptan), Frova (frovatriptan), Axert (almotriptan), Zomig (zolmitriptan, any), Imitrex (sumatriptan), Triptan Nasal Sprays, Pegfilgrastim (Neulasta, Fulphila, Udencya); Premrin (conjugated estrogens).
 8/19 Update Mircera
 8/19 (2nd revision) Add ophthalmic NSAIDs (ketorolac, bromfenac, diclofenac, flurbipofen, nepafenac), Symtuza (darunavir, cobicistat, emtricitabine, tenofovir), buprenorphine +/- naloxone.
 9/19 Lidocaine transdermal, revised Neupogen (filgrastim)
 11/19 Ranitidine syrup removed, famotidine susp added; glucose oral tablets and liquid.
 2/20 Added azithromycin substitution for doxycycline and updated Zosyn extended infusion substitution with *Adult Beta-lactam Extended Infusion* policy link.
 3/20/20 Respiratory substitutions for COVID-19
 3/20 (2) COVID-19: Updated respiratory to include Atrovent MDI. Added suspension of doxycycline to azithromycin autosub.
 3/27/2020: heparin SC tid subbed to bid during COVID-19 for COVID +/-PUI
 4/20 Revised DVT prophylaxis substitutions, cancel the 3/27/20 changes
 5/20 Revised COVID-19 respiratory section – Spiriva instead of Atrovent/Combivent
 6/20 Remove suspension of doxycycline to azithromycin auto-sub for COVID-19; pantoprazole 20mg oral update, famotidine 10mg, spironolactone/HCTZ, ondansetron PO, ergocalciferol, multitrace concentrated, melatonin, USP, warfarin generic, Retacrit, Procrit, Mircera, Brovana, Perforomist.
 9/20 Removed any reference to ranitidine due to nationwide shortage caused by nitrosamine contamination.
 3/21 Removed rosiglitazone & pioglitazone.
 5/21 Revised oral Iron combination products, magnesium (oral), mesalamine (oral), azelastine nasal spray, clarified triptans, added guaifenesin syrup.
 8/21 Revised COVID VTE prophylaxis section to reflect Trinity guidelines/EPIC orders.
 9/21 Added Vyzulta to latanoprost substitution.
 11/21 Updated interchanges for Dulera and Asmanex, clarified metronidazole frequency adjustment.
 12/21 Updated policy statement at beginning; added interchange for monoclonal antibodies.
 Revised COVID VTE prophylaxis section to reflect Trinity guidelines/EPIC orders.
 1/22 Revised Ferrlecit restrictions (removed x 2 doses), added SGLT2 autosubstitution.
 2/22 Updated interchanges for Advair.
 5/22 Added gentamicin ophthalmic interchange, fiorinal interchange.
 7/22 Added zafirlukast interchange
 10/22 Updated Advair interchange to Dulera
 2/23 Added Trinity Subs. Revised capsaicin topical, lactobacillus, ICS/LABA (Dulera), omega 3, lidocaine patches, vit D 50000, glargine/lispro (add “U-100”), therapeutic MVI w/ minerals, pramoxine 1% and colchicine (removed dosage form).
 Removed hydrocortisone 2.5%, Lidex-E and levalbuterol exception.

References:

Expert Opinion

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| Original Date: 7/95 | Reviewed/Revision Dates: : 6/98 6/01 12/02 7/03 11/03 01/04 1/05 2/05 7/05 8/05 10/05 4/06 7/06 8/06 8/07 1/08 2/09 3/09 7/09 10/09 11/09 3/10 6/10 7/10 9/10 11/10 1/11 2/11 5/11 6/11 9/11 12/11 2/12 3/12 6/12 7/12 10/12 12/12 1/13 2/13 3/13 6/13 8/13 10/13 12/13 2/14 4/14 6/14 8/14 10/14 11/14 1/15 3/15 6/15 7/15 10/15 1/16 3/16 4/16 6/16 7/16 12/16 2/17 3/17 4/17 6/17 10/17 1/18 4/18 6/18 10/18 11/18 1/19 2/19 3/19 6/19 8/19 9/19 11/19 2/20 3/20 4/20 5/20 6/20 9/20 3/21 5/21 8/21 9/21 11/21 12/21 1/22 2/22 5/22 7/22 10/22 2/23 |
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