GREAT PLAINS HEALTH AND AFFILIATES

DEPARTMENT: Pharmacy

SUBJECT: IV to PO Conversion

OWNER: Director of Pharmacy Services

DATE REVIEWED:
08/08/17
08/11/17
08/29/17

POLICY NUMBER: 7070-0128

EFFECTIVE DATE: 02/04/08

APPROVED BY:
Director of Pharmacy
P&T Committee
Senior Director of Ancillary Services

POLICY STATEMENT:

It is the policy of Great Plains Health and the GPH Pharmacy Department to provide an automatic intravenous (IV) to oral/enteral (PO) conversion program in accordance with the guidelines set forth in this policy as approved by the Pharmacy and Therapeutics Committee and Medical Staff.

PROCEDURE:

1. The Pharmacy Department will automatically convert selected medications from intravenous (IV) to oral (PO) formulations as per protocol when the patient meets approved conversion criteria. The Pharmacy Department will maintain a list of the medications approved by the Pharmacy and Therapeutics Committee and Medical Executive Committee for IV to PO conversion and the approved conversion criteria. The policy and medication list will be reviewed and approved annually by the Pharmacy and Therapeutics Committee and the Medical Executive Committee.
2. Patient Identification
   a. Pharmacists review the IV to PO patient list daily to identify potential candidates for IV to PO conversion based upon established criteria. All ADULT patients on any IV medications listed below are considered eligible for IV to PO conversion and should be assessed.

Antibiotics	**Antihistamines**	**Vitamins**
Azithromycin	Diphenhydramine	Folic Acid
Bactrim		Multiple Vitamin
Ciprofloxacin	**GI Agents**	Thiamine
Clindamycin	Esomeprazole	
Doxycycline	Famotidine	**Miscellaneous**
Fluconazole	Metoclopramide	Acetaminophen
Levofloxacin	Pantoprazole*	Digoxin
Linezolid		Levitiracitam
Metronidazole	**Corticosteroids**	Levothyroxine**
	Dexamethasone	

- All adult patients receiving at least one systemically active medication orally or via NG/OG/PEG tube, may be potential candidates for the IV to PO conversion based upon medication classifications and established criteria

   a. Inclusion Criteria *Patient must meet all criteria below for conversion to an oral formulation:*
      i. Patient that is capable to take medications/food by mouth or via an enteral tube or is receiving other oral medications that render a systemic effect (i.e., medications strictly for use within the gastrointestinal (GI) tract such as the use of oral vancomycin for *C. difficile* infections)
      ii. Patient has a functioning GI tract with no malabsorption syndromes (i.e., receiving soft or regular diet)
      iii. Interacting medications can be separated by at least 2 hours
      iv. Patient is clinically improving or stabilized with no signs and symptoms of shock (i.e., requiring high dose vasopressors)

v. For patients on anti-infective therapy:
   1. Improvement is evident based on subjective and objective signs and symptoms of infection (i.e., fever trending down and white blood cell count is returning to normal levels)
   2. Patient is not neutropenic
   3. Patient is being treated for pneumonia, skin and soft tissue infection, urinary tract infection or pyelonephritis, or an intra-abdominal infection. *(Other disease states may be appropriate for interchange. Consideration should be based on a site-specific basis.)*
   4. Infection is at a site where an oral agent will achieve adequate levels.

vi. For patients on antiepileptic agents:
   1. Patient is not actively seizing and is able to tolerate oral medications without risk of aspiration.

b. Exclusion Criteria *Patients are excluded from conversion if they meet any of the below criteria:*

i. Patient is NPO (unable to take anything by mouth).
ii. Patient is at risk for aspiration.
iii. Patient has severe nausea, vomiting, diarrhea, gastrointestinal obstruction, or a motility disorder.
iv. Patient is receiving continuous nasogastric suctioning or has residual less than 200mL.
v. Patient has a malabsorption syndrome.
vi. Patient has concomitant disease state(s) that contraindicate(s) the use of oral medications (e.g., pancreatitis or active GI bleeding).
vii. For antimicrobial therapy, the patient is being treated for an infectious process inappropriate for conversion therapy such as meningitis, brain abscess or other CNS infection, endophthalmitis, endocarditis or undrained abscess. *(In some cases, switch therapy may be appropriate; however, discussion with the prescriber should precede any switch.)*
viii. Patient is neutropenic. *(There are some data supporting the use of oral therapy in neutropenic patients; however, step-down therapy requires extensive consideration and input from oncology, infectious disease, and/or microbiology personnel. Also, consideration should be given to additional patient inclusion/exclusion criteria as well as differences in which enteral agents may be appropriate to include in the program.)*
ix. Bacteremia

Dosage Guidelines and Clinical Equivalency

ANTIBIOTICS				
Medication	**IV : PO Equivalence**	**IV Dose**	**PO Dose**	**Schedule**
azithromycin	1 : 1	500 IV	500mg PO	continue Same
Bactrim	1 : 1	5 – 20 mL **5mL IV = 400mg SMX + 80mg TMP**	1 SS tab = 5 mL IV 1 DS tab = 10 mL IV 2 DS tabs = 20 mL IV	continue same
ciprofloxacin	1 : 1.25	200mg IV 400mg IV	250mg 500mg (750mg if on tube feedings)	continue same
clindamycin	---	300mg 600mg	300mg 450mg	continue same
doxycycline	1 : 1	100mg	100mg	continue same
fluconazole	1 : 1	100 – 800mg	100 – 800mg	continue same
levofloxacin	1 : 1	250mg/500mg/750mg	250mg/500mg/750mg	Continue same
linezolid	1 : 1	600mg	600mg	continue same
Metronidazole	1 : 1	500mg	500mg	Continue same
ANTIHISTAMINES				
diphenhydramine	1 : 1	25 – 50mg	25 – 50mg	continue same
CORTICOSTEROIDS				
dexamethasone	1 : 1	1 – 10mg	1 – 10mg	continue same
GI AGENTS				
famotidine	1 : 1	20mg	20mg	continue same
metoclopramide	1 : 1	10mg	10mg	continue same
Pantoprazole*	1 : 1	40mg For pantoprazole 40mg IV Dose	40mg 30mg lansoprazole Susp for patients with NG/OG/PEG	continue same continue same
VITAMINS (after 72 hours in CIWA patient)				
folic Acid	1 : 1	1mg	1mg	continue same
multivitamin	1 : 1	10 mL	1 tab	continue same

thiamine	1 : 1	50 – 100mg	50 – 100mg	continue same
MISCELLANEOUS				
Acetaminophen	1 : 1	1000mg	1000mg (tablet or suspension). Contact prescriber for dosing recommendations for pediatric patients.	continue same. NOTE: MAX total daily dosage by all routes 4000 mg/24 hours
Digoxin	1 : 1	0.125mg-0.25mg	0.125-0.25mg	continue same
Levetiracetam	1 : 1	500mg – 1500mg	500mg – 1500mg	continue same
Levothyroxine**	1 : 2	25 mcg	50 mcg	continue same. May hold levothyroxine dose up to 5 days (see attachment).

*Intermittent dosing only, non-active GI bleed. Use lansoprazole suspension or orally disintegrating tablets (ODT) for patients with feeding tubes (ie, NG/OG/PEG).
** Appropriate IV use: NPO greater than 5 days, treatment for myxedema coma, patient participation in organ donation program, documented current severe hypothyroid patient (based on symptoms and measured TSH) prior to urgent surgery.

c. A pharmacist may automatically convert patients from IV to oral therapy if there are no contraindications to oral therapy
d. Dosage will be adjusted for renal function per renal protocol