
UNIT-BASED PHARMACY SERVICES

JORDAN M POTTER, PHARM.D

PHARMACY GRAND ROUNDS

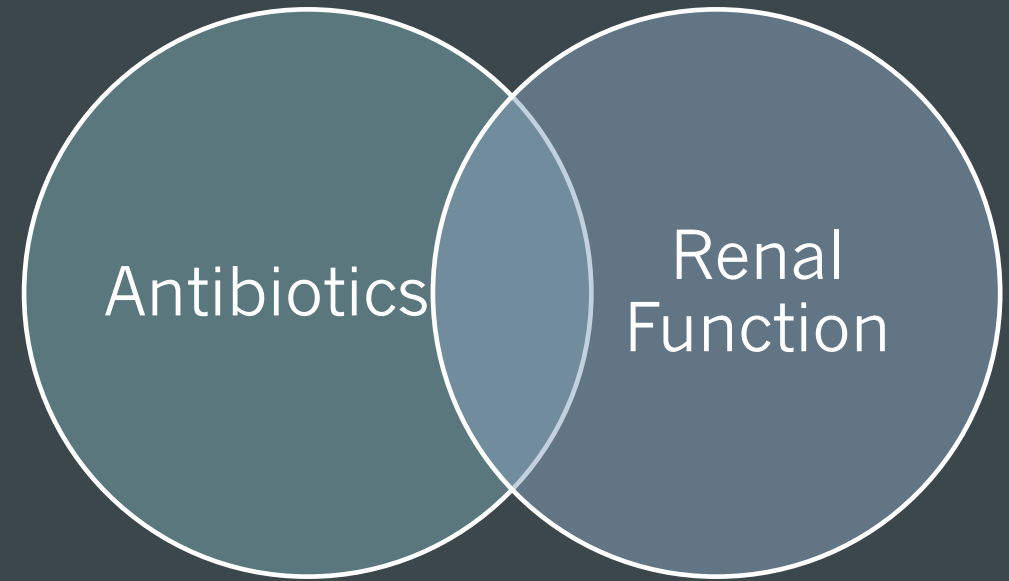
BEAUMONT HOSPITAL, ROYAL OAK, MI



OBJECTIVES

- Review daily duties of unit-based pharmacists
- Recognize the importance of appropriate documentation
- Relate responsibilities to impact on patient care

AUTOMATIC RENAL DOSING OF ANTIMICROBIAL AGENTS



AUTOMATIC RENAL DOSING OF ANTIMICROBIAL AGENTS

Purpose: Allows pharmacists to change the dose and/or frequency of antimicrobial agents based on adult patients' renal function or renal replacement therapy

- Assess renal function in last 72 hours
 - Order Renal Function Panel per protocol, if necessary
 - Urine Output
 - Renal replacement therapy, if applicable

NOTE:

Pharmacists will calculate creatinine clearance (CrCl) based on the Cockcroft-Gault Equation to estimate the patient's renal function.

Est. CrCl = $\{([140 - \text{age}] \times \text{IBW}^*) / (72 \times \text{serum creatinine})\} \times (0.85 \text{ if female})$

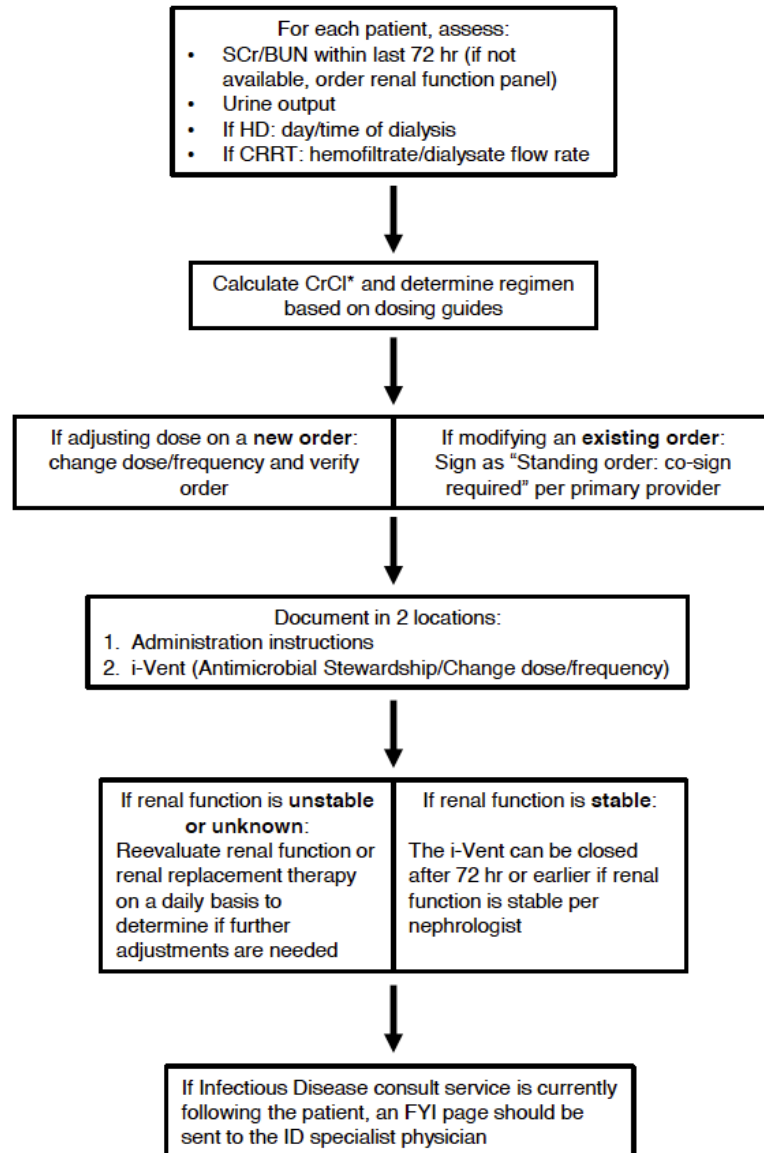
Use total body weight (TBW) if TBW < IBW and use ABW in obese patients (if TBW is >30% over IBW)

Adjusted Body Weight (ABW) = $\text{IBW} + 0.4(\text{TBW} - \text{IBW})$

Ideal Body Weight (IBW) for men = 50 kg + 2.3 kg per inch over 5 feet

Ideal Body Weight (IBW) for women = 45 kg + 2.3 kg per inch over 5 feet

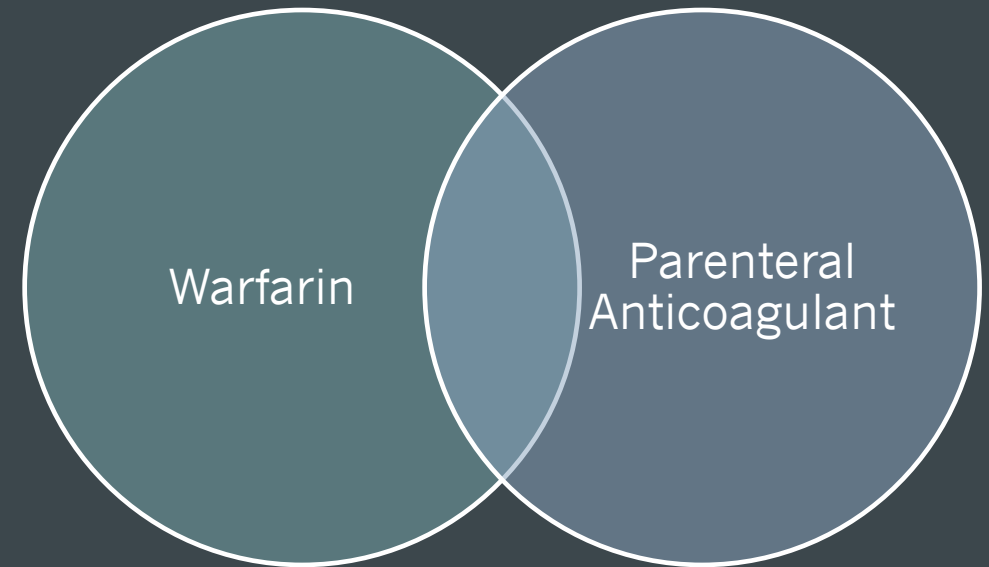
Automatic Renal Dosing of Antimicrobial Agents



AUTOMATIC RENAL DOSING OF ANTIMICROBIAL AGENTS

1. Assess renal function and renal replacement therapy, if applicable
2. Calculate creatinine clearance and determine regimen
3. Adjust the order
 1. For NEW ORDERS: Change dose/frequency and verify
 2. For EXISTING ORDERS: Sign as "Standing order: co-sign required" per primary provider
 3. If Infectious Disease (ID) is consulted, send FYI page to ID specialist
4. Document in administration instructions and as an i-Vent
 1. "Antimicrobial Stewardship"; "Change dose/frequency"
5. Follow up
 1. If renal function UNSTABLE: Re-evaluate renal function or renal replacement therapy daily
 2. If renal function STABLE: Close i-Vent after 72 hours

VTE-3 CORE MEASURE FOR OVERLAP THERAPY



VTE-3 CORE MEASURE FOR OVERLAP THERAPY

Purpose: Patients with acute VTE require overlap with a parenteral agent while warfarin reaches steady state

- Joint Commission Core Measure
- New pharmacy to dose warfarin consult for VTE
 - Pharmacists managing warfarin therapy for VTE will assess parenteral anticoagulation overlap
 - Open a “Core Measure” i-Vent on the parenteral agent
- Update i-Vent daily
- Place recommendations for overlap in initial warfarin note

| Type | Subtype | Status | Significance |
|--------------|---------|--------|--------------|
| Core measure | | Open | |

| Value | Time spent | Response | Outcomes |
|--|------------|----------|----------|
| Associated Orders | | | |
| warfarin (COUMADIN) per pharmacy | | | |
| heparin 25,000 units in dextrose 5 % 250 mL infusion HIGH ALERT | | | |
| Order Name or ID | + Add | | |
| Associated Users | | | |
| Scratch Notes | | | |
| Documentation | | | |
| <p>PT 16.0 APTT 57.6 on heparin gtt</p> <p>For acute DVT/PE diagnosis, recommend at least 5 days of combined parenteral anticoagulation and warfarin with an INR greater than or equal to 2 prior to discontinuation of parenteral anticoagulation</p> <p>INR Moving slowly. Patient presented with intracranial bleed, so to increase dose too quickly would be disadvantageous in regard to bleed potential.</p> | | | |
| <p>PHARMACIST 11/13/2019 09:37</p> <p>Day 3 of 4 Warfarin/Heparin Overlap INR 1.3 PT 14.8 APTT 84.8 on heparin gtt</p> <p>For acute DVT/PE diagnosis, recommend at least 5 days of combined parenteral anticoagulation and warfarin with an INR greater than or equal to 2 prior to discontinuation of parenteral anticoagulation</p> | | | |

VTE-3 CORE MEASURE FOR OVERLAP THERAPY

1. Identify warfarin consult for VTE (acute or history) with parenteral overlap
2. Open “Core Measure” i-Vent on parenteral agent
 1. “Day X of 4 warfarin/*parenteral* agent overlap”
 1. NOTE: The day that the i-Vent/overlap starts is DAY 0
 2. Record current monitoring parameters
 1. INR, PT, APTT
 3. “For acute DVT/PE diagnosis, recommend at least 5 days of combined parenteral anticoagulation and warfarin with an INR greater than or equal to 2 prior to discontinuation of parenteral anticoagulation”
 1. Also add this statement to the initial warfarin pharmacist progress note
3. Follow up
 1. Update daily while overlapping with parenteral therapy

VTE-3 CORE MEASURE FOR OVERLAP THERAPY

If parenteral agent discontinued,
document the same day and
contact prescriber, as necessary, IF:

1. Overlap is < 4 days
2. Overlap > 4 days but INR <2

“.pharmacyoverlapanticoagulationnote”

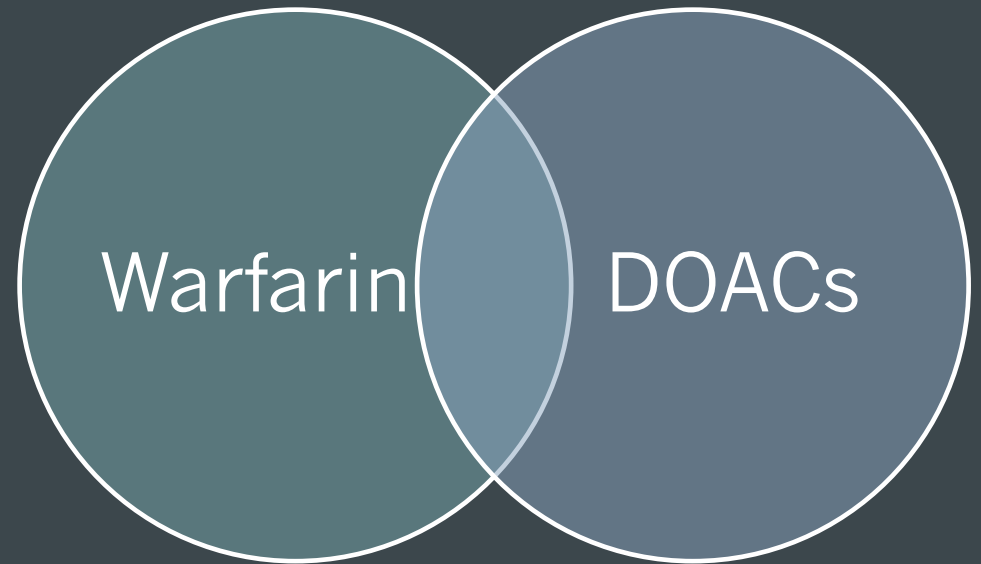
Pharmacy Overlap Anticoagulation Note for VTE-3 Core Measure

Patient has received *** days of overlap therapy with {WBH RX ANTICOAGULANTS OVERLAP:610385:::0} and warfarin therapy for treatment of VTE. Verified parenteral therapy with {WBH RX ANTICOAGULANTS OVERLAP:610385:::0} was discontinued for the following reason(s): {WBH RX ANTICOAGULATION DC REASONS:610386:::0}

Pharmacist: J

- ☐ increased bleeding risk
- ☐ high INR value, supratherapeutic INR > 3
- ☐ patient has severe anemia
- ☐ patient is actively bleeding
- ☐ patient is not a candidate for long-term anticoagulation
- ☐ patient previously on warfarin
- ☐ patient received blood during overlap therapy
- ☐ patient scheduled for surgery
- ☐ patient/caregiver refusal
- ☐ thrombocytopenia
- ☐ use of oral anticoagulants other than warfarin
- ☐ other - ***

ANTICOAGULANT PATIENT EDUCATION



ANTICOAGULATION PATIENT EDUCATION

Purpose: Provide education for high-risk medications to improve successful outcomes as a national patient safety goal

- Ensure patients can successfully utilize anticoagulants safely and efficaciously
- Timeframe: Education and documentation within 24-48 hours of therapy initiation
- On ALL oral anticoagulant orders, open “Patient Education” iVent
 - Use smart phrase “**.anticoagedu**” to assess the need for patient education
- Anticoagulant Teaching Service Pager: x52071
 - Available to page from 1000 to 1500

ANTICOAGULATION PATIENT EDUCATION

| Responsibility | Warfarin | DOACs | SmartPhrase |
|-------------------------------|----------|-------|-----------------------|
| Patient Education i-Vent | ✓ | ✓ | ".anticoagedu" |
| Education Required if: | | | |
| New Start | ✓ | ✓ | |
| Non-Compliance | ✓ | ✓ | |
| Benefit from Education | ✓ | ✓ | |
| Atrial Fibrillation | ✓* | ✓* | |
| VTE (Acute or history) | ✓ | | |
| Hypercoagulable States | ✓ | | |
| Completed Education: | | | |
| Patient Education i-Vent | ✓ | ✓ | ".pharmeducationnote" |
| Pharmacist Progress Note | ✓ | ✓ | ".pharmeducationnote" |
| Patient Education Tab | ✓ | | |

* If other condition met to require patient education (i.e. new start, non-compliance, etc.)

“.ANTICOAGEDU”

Open i-Vent upon order verification and use SmartPhrase to evaluate the need for education in the “Patient Education” i-Vent

Anticoagulation Patient Education Assessment

Indication: paroxysmal atrial fibrillation

New start: Yes

Non-compliance noted: No

Dose change/may benefit from further education: No

Education required: Yes

Any barriers to education: No

".PHARMEDUCATIONNOTE"

Place the following in the "Patient Education" i-Vent and document in a "Pharmacist Progress Note"

Royal Oak Pharmacy - Patient Education

Anita Anticoagulant has received counseling on the appropriate use and potential adverse effects of the following medications: **Apixaban**. The patient has verbalized understanding of the information provided and received literature.

"Patient and family member present for education. Education provided and all questions regarding therapy were answered."

Pharmacist: **John Smith, PHARMACIST**

WARFARIN

Patient Education Documentation

1. I-Vent
2. Pharmacist Progress Note
3. Education “Resolved”

“Patient Education” Tab > “Warfarin (Coumadin) Education” > “Document”

The screenshot displays the 'Education' tab interface. On the left, a list of educational topics is shown, with 'Warfarin Sodium' selected and highlighted by a red box. The main content area on the right is titled 'First-Dose Education' and contains a section for 'Warfarin Sodium' with instructions for learners. Below this, patient information is displayed: 'Patient: Acceptance, Explanation, Needs Reinforcement, Sidaway, Nancy Sue, RN at 11/2/2019 1046'. The 'Orders for this education' section shows '• warfarin (COUMADIN) per pharmacy'. At the bottom right, the 'Document' button is highlighted with a red box.

Education

Assessment **Education**

Clear Selections **Active** All

Comments (0) Hide Descriptions

First-Dose Education

Title Points for First-Dose Education

Warfarin Sodium ⤴

Instruct learners on name and purpose of medications and possible side effects. If appropriate, include food/drug interactions, reporting of efficacy, and symptoms to report.

Patient Acceptance, Explanation, **Needs Reinforcement** Sidaway, Nancy Sue, RN at 11/2/2019 1046

Orders for this education: • warfarin (COUMADIN) per pharmacy

Warfarin Sodium (selected)

Document

WARFARIN

Patient Education Documentation

1. I-Vent
2. Pharmacist Progress Note
3. Education “Resolved”

“File” > “Resolve” > “Education Complete”

Learners

☐ Patient ☐ Family ☐ Significant Other ☐ Caregiver ☐ Other ☐ Mother ☐ Father ☐ Guardian ☐ Foster Parent

Readiness

Method

☐ Explanation* ☐ Demonstration ☐ Handout ☐ Interpreter ☐ Video/DVD ☐ Class/Group ☐ Teach back

Response

☐ Verbalizes Understanding* ☐ Demonstrated Understanding ☐ Needs Reinforcement ☐ No Evidence of Learning ☐ Refused Teaching ☐ Teach Back

Enter a comment for all selected points

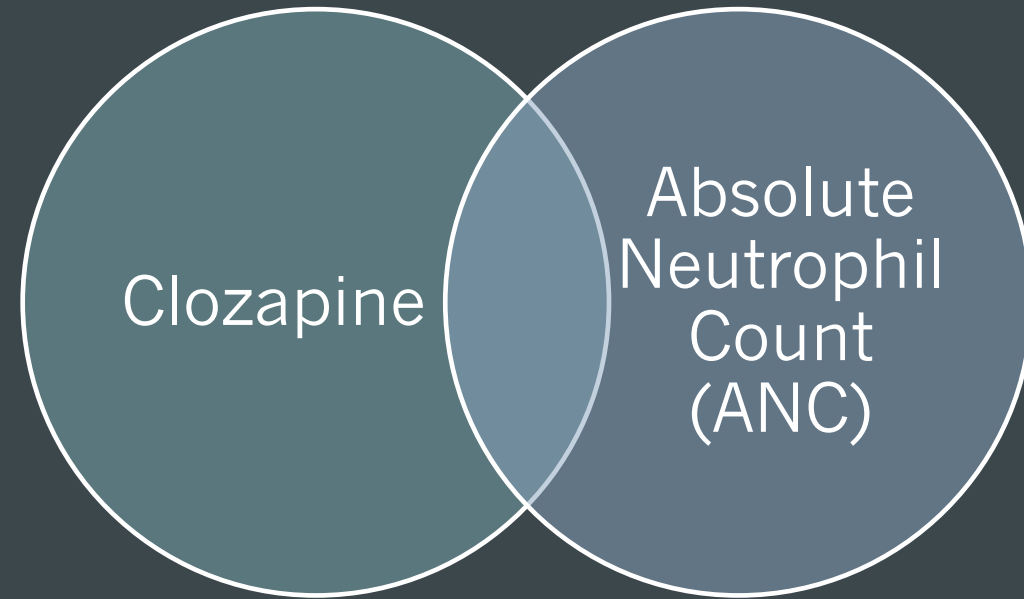
Taught by: POTTER, JORDAN M

11/15/2019 0704

* Apply Defaults

File (1) Cancel

CLOZAPINE REMS



CLOZAPINE REMS

Purpose: clozapine can cause serious adverse events including neutropenia, which can lead to severe infections and death

- Clozapine (Clozaril) is an atypical antipsychotic
- Used for schizophrenia or schizoaffective disorder
- Only available through a risk evaluation and mitigation strategy (REMS) program
- Mitigate risk of severe neutropenia ($ANC \leq 0.5 \text{ bill/L}$)
- Clozapine REMS-certified prescriber must write all new prescriptions and enroll patient

Patient Information

First Name

Last Name

Date of Birth

Zip Code ?

Add Patient Lab (optional)

ANC value per microlitre (opt)

Blood Draw Date (opt)

Dispensation Information (optional)

Date of Service (opt) ?

-- Manufacturer --

-- NDC# Number --

Days Supply (opt)

Quantity (opt)

At least one identifier is required

Prescriber DEA

Prescriber NPI

CLOZAPINE REMS
The Single Shared System for Clozapine
No Blood, No Drug™

Username Password **Sign in**

Forgot Username? Forgot Password? Need an Account?

Home Prescriber Pharmacy Patient Resources Support

- Upon order for clozapine, go to: ClozapineREMS.com
- Every pharmacist will need their own account:
 - Select “Need an Account?” > New User > Pharmacy Staff
 - Zip Code: 48073 NPI: 1356384697
- Click on “Pharmacies” tab > “Action” > “Eligibility Check”
 - Enter patient’s information to verify they are registered with REMS
 - First Name, Last Name, Date of Birth, Zip Code
 - Chart Review > All Reports > Facesheet
 - At least one provider identifier (DEA or NPI)
 - NPI can be looked up here: <https://npiregistry.cms.hhs.gov/>
- Alternatively, may call 844-267-8678

Clozapine Dose and Frequency: 25 mg qAM and 50 mg qHS (new start)

Eligible per clozapinerems.com: Yes
 Patient ZIP: 48178
 Physician NPI: Dr. Patel, 1972585248
 Monitoring frequency: weekly

Lab Results

| Component | Value | Date |
|-----------|-------|------------|
| NEUT | 5.2 | 11/07/2019 |
| NEUT | 2.8 | 07/19/2019 |
| NEUT | 4.9 | 07/02/2019 |
| NEUT | 2.8 | 07/21/2018 |
| NEUT | 6.7 | 07/09/2018 |
| NEUT | 4.2 | 06/17/2018 |

Plan:

- **Next labs due: 11/14/2019**
- Ordered: Yes

| Epic | REMS |
|--|---------------------|
| 5.2 bil/L | 5200 per microlitre |
| "Just move the decimal 3 places to the right!" | |

CLOZAPINE REMS

The Single Shared System for Clozapine
No Blood, No Drug™

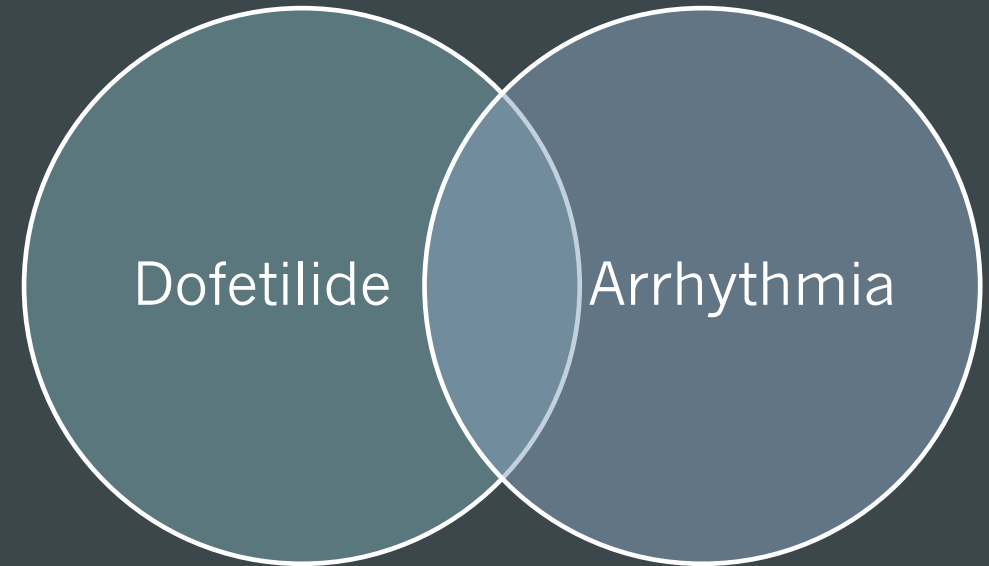
Jordan Potter ▾

[My Dashboard](#)

[Home](#)
[Prescriber](#)
[Pharmacy](#)
[Patient](#)
[Resources](#)
[Support](#)

- Evaluate and document weekly ANC values
 - If not ordered, order CBC with differential per protocol and document result in "Order/monitor labs/levels" i-Vent
 - If lab comes back outside of acceptable range, pharmacist must notify and receive direction on further dose management and document in i-Vent
 - Report weekly ANC values to Clozapine REMS Program
- Click on "Pharmacies" tab > "Action" > "Add Lab"
 - Enter patient's information
 - First Name, Last Name, Date of Birth, Zip Code
 - Chart Review > All Reports > Facesheet
 - Add Patient Lab
 - ANC value per microlitre and Blood Draw Date
 - At least one provider identifier (DEA or NPI)

DOFETILIDE ADMINISTRATION



DOFETILIDE ADMINISTRATION

Purpose: minimize the risk of induced arrhythmia with initiation of dofetilide
infections and death

- Dofetilide (Tikosyn) is used to convert patients with atrial fibrillation or atrial flutter to normal sinus rhythm (NSR)
- Use requires a minimum of 3 days of inpatient monitoring
 - Creatinine Clearance
 - Continuous electrocardiographic (ECG) monitoring
 - Cardiac Resuscitation
- Dosing based upon calculated CrCl and QTc

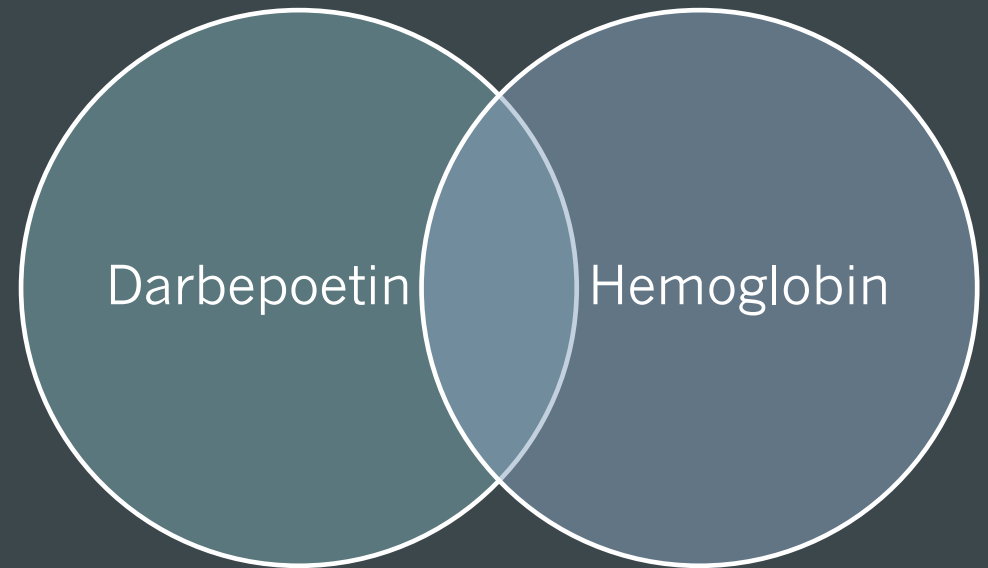
DOFETILIDE PHARMACIST RESPONSIBILITIES

1. Patient Flag for Dofetilide
2. Open i-Vent; Verify Correct Dose
3. Follow Up on Subsequent Doses

1. Upon receiving order for dofetilide, place a "Patient Flag" in Epic on the patient's profile indicating "Dofetilide Patient"
2. Open i-Vent to verify and record correct dose based on CrCl and verify labs (K^+ / Mg^{2+} / Ca^{2+}) are within range
3. With each dose, pharmacist should verify that no interacting medications have been prescribed and that the QTc interval is recorded
4. Pharmacy provides patients with a 7-day supply and education is required prior to discharge

| Calculated Creatinine Clearance | Dose |
|---------------------------------|-------------------------------|
| > 60 mL/min | 500 mcg twice daily |
| 40 – 60 mL/min | 250 mcg twice daily |
| 20 - 39 mL/min | 125 mcg twice daily |
| < 20 mL/min | Dofetilide is contraindicated |

DARBEOETIN REPORT



DARBEOPOETIN REPORT

Purpose: Increased risk of cardiovascular events in patients receiving darbepoetin (Aranesp) and epoetin alpha (Procrit, Epogen)

- Darbepoetin is an erythrocyte-stimulating agent
- Darbepoetin doses are given at 1700 every Wednesday
- Within 48 hours of dose, patient's hemoglobin must be assessed
- If no Hgb ordered, order CBC per protocol to assess
- For CKD patients NOT ON DIALYSIS or ONCOLOGY patients
 - Initiation of therapy is permitted if Hgb < 10 g/dL
 - Hold dose if, within last 48 hours, Hgb \geq 10 g/dL
- For CKD patients ON DIALYSIS (HD, PD, CRRT)
 - Initiation of therapy is permitted if Hgb < 10 g/dL
 - Hold dose if, within last 48 hours, Hgb \geq 11 g/dL

DARBEPOETIN REPORT

Type **Order/monitor labs/levels** Subtype Status **Open** Significance Value

Time spent Response Outcomes

Associated Orders

darbepoetin (ARANESP) injection 100 mcg

Order Name or ID + Add

Associated Users

Scratch Notes

Documentation

PHARMACIST 11/6/2019 09:49

Results for as of 11/6/2019 09:49

| | Ref. Range | 11/5/2019 08:03 |
|------------|------------------------------------|-----------------|
| HEMOGLOBIN | Latest Ref Range: 13.5 - 17.0 g/dL | 7.9 (L) |

HARMACIST 11/5/2019 08:54

Results for as of 11/5/2019 08:53

| | Ref. Range | 11/2/2019 10:17 | 11/3/2019 07:54 | 11/4/2019 12:28 |
|------------|------------------------------------|-----------------|-----------------|-----------------|
| HEMOGLOBIN | Latest Ref Range: 13.5 - 17.0 g/dL | 8.6 (L) | 8.6 (L) | 8.9 (L) |

- Open “Order/monitor labs/levels” i-Vent for any new darbepoetin orders
- Copy and paste most recent hemoglobin result for patient
- Within 48 hours of each Wednesday at 1700 run the RO Darbepoetin/HGB Report
 - My Reports > RO Darbepoetin/HGB Report
- For each result, document in the i-Vent the patient’s most recent hemoglobin result
 - If Hgb not within 48 hours of dose due, order CBC per protocol and assess result
 - State “OK to receive darbepoetin dose on MM/DD/YY”

MEDICATION HOLD ORDER



If Hgb above acceptable range:

1. Page physician
2. State to nurse that patient does not qualify for dose
3. Place order to hold dose


HOLD SINGLE DOSE MEDICATION

✓ Accept

✗ Cancel

Priority: Routine  STAT  Routine


Medication Name Darbepoetin


Hold Medication Date 11/18/2019 


Dose Time 1700



! Instructions

Please hold dose for Hgb above...


Comments:  For active medication orders please document the action: 'Hold', and the Reason: 'Single dose hold' on the MAR

Phase of Care: 

Frequency: ONCE 

Starting: 11/18/2019  Today Tomorrow At: 2005 

First Occurrence: **Today 2005**

Scheduled Times 

11/18/19 2005

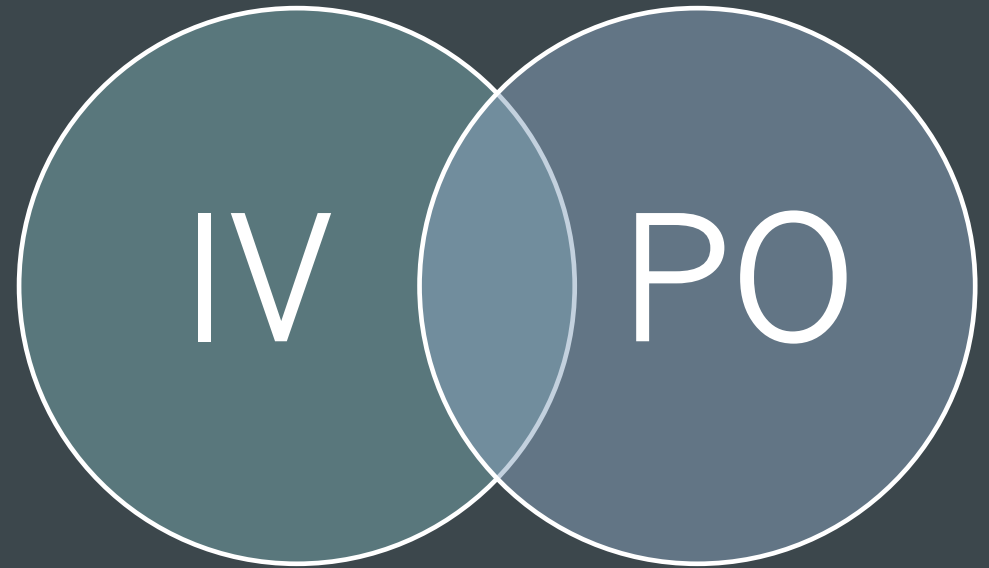
! Next Required

Link Order

✓ Accept

✗ Cancel

IV TO PO



IV TO PO REPORT

Purpose: avoidance of the added risks associated with continued IV therapy, lower overall medication and associated costs to the patient and the hospital, and potentially reduce hospital length of stay

- A pharmacist will identify patients receiving parenteral formulations of select medications listed below and **automatically convert them** to an approved oral dosage form

| Agents | Inclusion | Exclusion |
|-------------------------|--|---|
| All medications on list | <ul style="list-style-type: none">• Adult patients• Adequate oral intake and enteral absorption• Tolerating at least full liquid diet or tube feeds• Receiving other meds PO or per tube | <ul style="list-style-type: none">• Documentation of NPO status• Complete bowel rest, pre-operative or postoperative fasting• Active gastrointestinal bleeding• Nausea/vomiting• Conditions that affect gastrointestinal absorption• Mucositis/esophagitis/stomatitis• Dysphagia/risk of aspiration• Patient refuses oral medication |
| Anti-infectives | <p>Above, plus:</p> <ul style="list-style-type: none">• One or more days of parenteral therapy• Stable and/or improving clinical status• Afebrile (all measurements < 38°C) for >24H WBC count normalizing | <p>Above, plus:</p> <ul style="list-style-type: none">• ICU Patients• Meningitis, endocarditis, neutropenia, osteomyelitis or septic arthritis• Bacteremia- conversion to oral therapy requires approval by physician• If the Infectious Disease service is consulted, the ID physician needs to approve the change |

IV TO PO I-VENTS AND REPORT

| |
|--|
| Famotidine (Pepcid) |
| Pantoprazole (Protonix) |
| Acetaminophen (Ofirmev) |
| Brivaracetam (Briviact) |
| Lacosamide (Vimpat) |
| Levetiracetam (Keppra) |
| Phenytoin (Dilantin) |
| Folic Acid/MVI in 1,000mL IV infusion +/- thiamine |
| Azithromycin |
| Ciprofloxacin |
| Doxycycline |
| Fluconazole |
| Levofloxacin |
| Linezolid |
| Metronidazole |
| Moxifloxacin |
| Tedizolid |

- Open “IV to PO” i-Vent for any IV to PO medication orders upon verification
- Run IV to PO 2019 under “Search Medication Orders” to capture any potential missed i-Vents
- Address potential changes when reviewing i-Vents
- If patient is eligible for conversion the pharmacist will discontinue the IV formulation and change to PO
- The pharmacist will input an I-Vent and a comment in the administration instructions noting that a conversion per standing order was implemented and close i-Vent

IV TO PO I-VENTS AND REPORT

| |
|--|
| Famotidine (Pepcid) |
| Pantoprazole (Protonix) |
| Acetaminophen (Ofirmev) |
| Brivaracetam (Briviact) |
| Lacosamide (Vimpat) |
| Levetiracetam (Keppra) |
| Phenytoin (Dilantin) |
| Folic Acid/MVI in 1,000mL IV infusion +/- thiamine |
| Azithromycin |
| Ciprofloxacin |
| Doxycycline |
| Fluconazole |
| Levofloxacin |
| Linezolid |
| Metronidazole |
| Moxifloxacin |
| Tedizolid |

Search Medication Orders Report - Report Settings - RO - IV to PO 2019 [12441026]

Criteria General

Available Reports

- RO - IV to PO _ 2017 ...
- RO - IV to PO _ 2017 7n
- RO - IV to PO _ 20174...
- RO - IV to PO 2018
- RO - IV to PO 20189s
- RO - IV to PO 2019**
- RO - Nitroprusside
- RO - NonMedispan M...
- RO - Oral Anticoagulants
- RO - Packaging DO N...
- RO - PCA
- RO - PCA per Pharma...
- RO - Piperacillin-Tazo...
- RO - TPN Daily Report
- RO - TPN Daily Report
- RO - TPN Daily Report...
- RO - TPN Daily Report...
- RO - Vasopressin
- RO - Warfarin per Ortho
- RO - Warfarin per phar...
- RO - Argatroban orders
- RO - Argatroban orders

Location Filter

- ☐ 6 ST MBC TEAM CARE D
- ☐ 6 ST MBC TEAM CARE E
- ☒ 7 CENTER TOWER REHAB
- ☐ 7 NORTH EAST RO
- ☐ 7 NORTH WEST RO
- ☒ 8 CENTRAL TOWER
- ☐ 8 NORTH EAST RO
- ☐ 8 NORTH WEST RO
- ☐ 8 ST M/O TEAM CARE D
- ☐ 8 ST M/O TEAM CARE E
- ☐ 8 ST NEUR TEAM CARE A

Medications

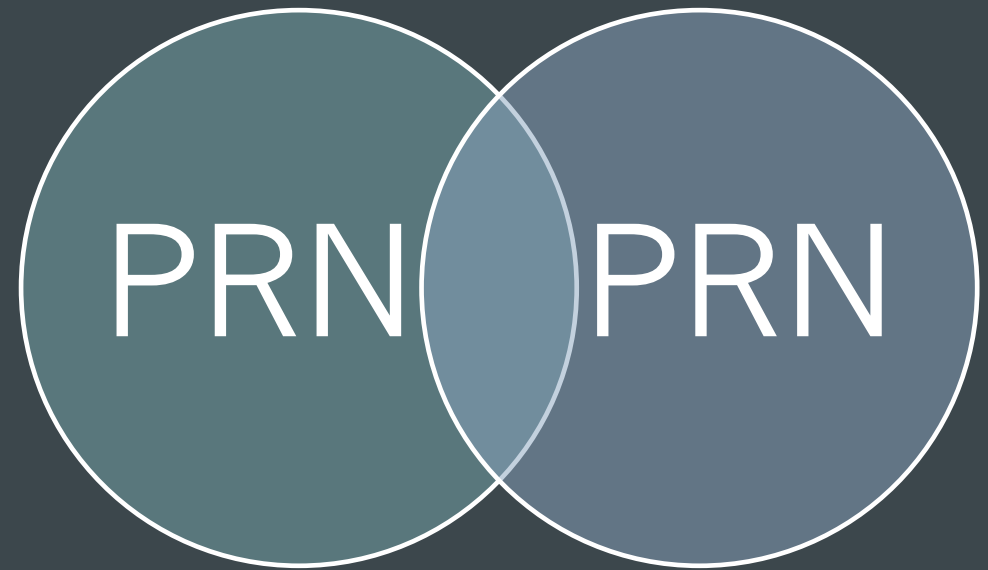
- CIPROFLOXACIN IN D5W 200 MG/100ML IV SOLN
- CIPROFLOXACIN IN D5W 400 MG/200ML IV SOLN
- AZITHROMYCIN IVPB
- DOXYCYCLINE IVPB 100 ML
- FLUCONAZOLE 100MG CUSTOM IVPB
- FLUCONAZOLE 100MG CUSTOM IVPB

☒ Show active orders only

Note: Running this report will evaluate the medications for all admitted patients and could take considerable time. You will not be able to do anything else in this session until the report is loaded.

Run Save Save As Delete Restore Cancel

DUPLICATE
PRN



DUPLICATE PRN

- Library > Search > “Duplicate PRN” > Run “Royal Oak Rx – Duplicate PRN Reasons” Report
- Assess list of your respective floors
- Identify any PRN medications with the same PRN indication listed and page ordering physician to reconcile, as appropriate
- Acceptable PRN medications would include:
 - Linked Orders (L1, L1, L1)
 - Orders input by respiratory therapists (i.e. albuterol)
 - Different routes of administration
 - Admin instructions differentiate which to be given first

NON- FORMULARY



NON-FORMULARY MEDICATIONS

- Upon receiving an order for a non-formulary medication do the following:
 - Ask yourself (or the provider), "is it necessary?"
 - See if the patient has received the medication as an inpatient before
 - Call Central Pharmacy to see if medication is available on the non-formulary shelf
 - If not available, ask if outpatient has or if patient can bring from home
- Once questions above have been assessed and drug is determined to be necessary, call Charge Pharmacist for approval
 - Only to be approved by Charge Pharmacist/Supervisor
- If not deemed necessary, page/call provider with therapeutic alternative and document in "Therapeutic Substitution" i-Vent

NON-FORMULARY MEDICATIONS

- If approved, place new order for medication
 - May require database lookup
- Once verified the medication needs to be labeled with an LOA label (patient supply) or a regular label (if hospital supply)
- Place i-Vent with approval information, route through which drug was obtained, and storage location (if kept in 6CN)
- Fill out Non-Formulary Drug Request Sheet and Fax

NON- FORMULARY MEDICATIONS

Beaumont Hospital, Royal Oak - Department of Pharmaceutical Services
Patient Specific Non-Formulary Drug Request
Pharmacy Purchasing, Ext. 80224

All fields are REQUIRED

*Date: _____
*Patient: _____ *11-Digit MRN: _____ *Room: _____
*NF Drug, generic (brand): _____ *Strength: _____
*Dose: _____ *Route: _____ *Frequency: _____
*Prescriber: _____ *Pager: _____ [Smart Web](#)
*Treatment for: _____
*I spoke to Dr. _____ *and offered these alternatives below:

*Reason for not accepting: Select...
If other, please explain: _____
*Pharmacist: _____ *Extension: _____

Request must be authorized by a supervisor before medication is dispensed to patient

Approved by: Select... ▼ *By method of: Select... ▼

☐ Changed to formulary alternative

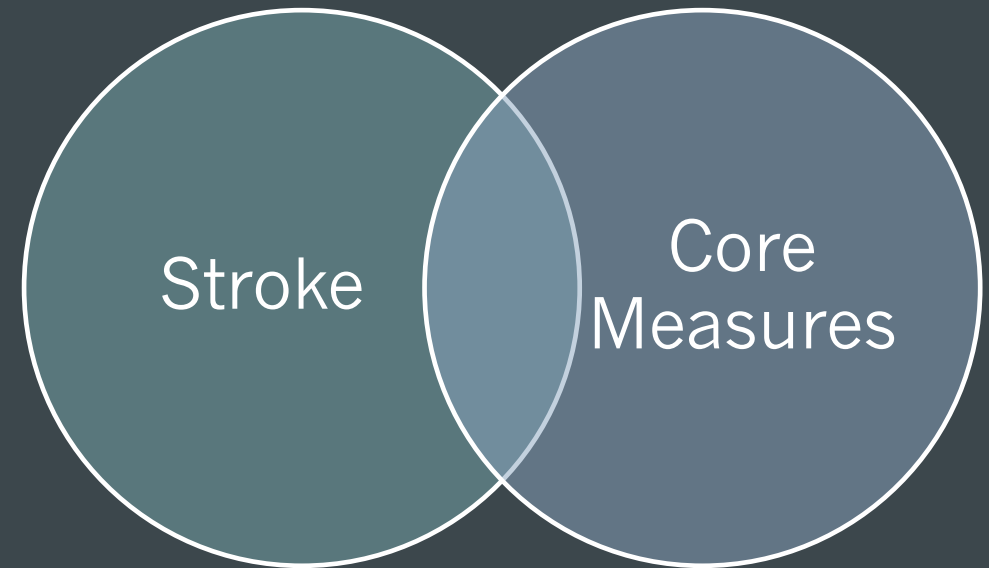
☐ Order discontinued

When completed, please print off and fax to:

| Shift | Contact/Fax To |
|------------|----------------------------------|
| Days | Pharmacy Purchasing, Fax: 82426 |
| Afternoons | Afternoon Supervisor, Fax: 82426 |
| Midnights | Pharmacy Purchasing, Fax: 82426 |

MIDNIGHTS ONLY may remove product from NF stock without supervisor authorization (If product is removed from NF shelf, please fill in NDC below)

STROKE LIST



STROKE LIST

Purpose: Evaluate compliance with Joint Commission Core Measures for patients with ischemic stroke

- Pharmacist receives daily email from Wendy Carriveau (Wendy.Carriveau@beaumont.org) and Caitlin Woodruff (Caitlin.Woodruff@beaumont.org)
- Email contains Stroke List Excel file with the different core measures and responsible personnel
- For patients already discharged home-UBS pharmacist will review the After Visit Summary (AVS) to confirm patient was discharged on appropriate medications

STROKE CORE MEASURES

- STRK 5 – Antiplatelet therapy by end of day 2 (second midnight after admission, NOT 48 hours)
- STRK 2 – Discharged on antiplatelet therapy
- STRK 6 – Discharged on statin
- STRK 3 – Anticoagulant therapy for atrial fibrillation/flutter

STROKE LIST

Fill in daily and email back by end of the day

this list, please page
be added and ensure
irs - unknown

Stroke List

Friday, November 15, 2019

9:12 AM

| Admission | LOS | Stroke Category | NHSS/Shift Needed? | Transition of Care Complete (IPA/ intervention pts only) | Statin for >100 LDL | Antithrom. D/C | Anticoag aFib D/C | Early Antithrom. | IV t-PA | Verified? | Education | Rehab Considered | Intervention | Initial mRS |
|--|-----|-----------------|--------------------|--|---------------------|-------------------|---------------------------|-------------------|--------------|-----------|-----------|------------------|----------------------------|-------------|
| | | | | | PHARMACY | | | ADMIN | | NURSING | | | IR | Rehab |
| 11.15.19 <i>Transferred from</i> | 1 | Phase B | Yes | | | | | | | | | | | |
| 11.14.19 | 2 | Phase A | Yes | | | | | | | | | | | |
| 11.7.19 <i>9 days since onset</i> | | IP | Yes | X | | | | | | V | | | RIGHT ICA/MCA Thrombectomy | 11-14-19/5 |
| 11.9.19 <i>Transferred from</i> | 7 | Phase C | Yes | | | | | | | | | | | 11-10-19/4 |
| 10.30.19 | 17 | Phase A | Yes | | C | C | n/a | N | | V | | | | 11-5-19/1 |
| 11.14.19 | 2 | Phase B | Yes | | | | | | | V | | | | |
| 10.31.19 <i>3 days since onset</i> | | IP | Yes | | | | | | | | | | | |
| 10.3.19 <i>44 days since onset</i> | | IP | Yes | | | | | | | V | | | | 11-13-19/4 |
| 10.26.19 <i>19 days since onset</i> | | IP | Yes | | | | | | | | | | | 11-7-19/5 |
| 11.12.19 | 4 | Phase B | Yes | X | | | | | | V | | | RMCA Thrombectomy | 11-13-19/5 |
| 11.6.19 | 10 | Hem | Yes | | | | | | | V | | | | |
| 11.13.19 | 3 | Hem | Yes | | | | | | | V | | | | |
| 11.4.19 <i>Transferred from</i> | 11 | Phase C | Yes | | | | | | | V | | | | 11-8-19/5 |
| 11.13.19 | 3 | Phase B | Yes | | | | | | | | | | | |
| 11.14.19 | 2 | Phase B | Yes | | | | | | | | | | | |
| 11.9.19 | 7 | Phase B | Yes | | c | c | no - awaiting clearance | y | | V | | | | 11-11-19/4 |
| 11.13.19 | 3 | TIA | No | | c | no - as scheduled | c | y | | | | | | 11-14-19/3 |
| 11.9.19 | 7 | Hem | Yes | | n/a | n/a | n/a | n/a | | V | | | | 11-11-19/4 |
| 11.14.19 | 2 | Phase B | Yes | | c | c | c | y | | | | | | |
| 11.8.19 <i>Transferred from</i> | 8 | Phase A | Yes | X | c | c | n | n | IV tPA 14:19 | V | | | | 11-12-19/4 |
| 11.3.19 | 13 | Phase C | Yes | | c | c | N/A | Y | | V | | | | 11-5-19/4 |
| 11.14.19 | 2 | Phase A | Yes | | c | c | no - awaiting clearance | pending - ordered | | | | | | |
| 11.11.19 | 5 | Phase A | Yes | | c | no - none ordered | n/a | no - hemorrhagic | | V | | | | 11-14-19/4 |
| 10.14.19 | 33 | Phase C | Yes | | C | C | N/A | Y | | V | | | | 10-18-19/5 |
| 11.1.19 <i>Transferred from</i> | 15 | Phase B | Yes | | c | c | n/a | y | | V | | | | 11-4-19/4 |
| 11.3.19 | 13 | Phase B | Yes | | c | c | no - cleared by neurology | y | | V | | | | 11-5-19/3 |

Pharmacist Key for Documentation in Excel File

| Statin on D/C | Antithrombotic on D/C | Anticoagulation on D/C | Antithrombotic by end of hospital day 2 |
|-------------------------------------|-------------------------------------|-------------------------------------|---|
| Yes – Compliance evaluated post D/C | Yes – Compliance evaluated post D/C | Yes – Compliance evaluated post D/C | Yes |
| No – Documented reason | No – Documented reason | No – Documented reason | No – Documented reason |
| (blank) – not yet completed | (blank) – not yet completed | (blank) – not yet completed | X – non-compliant |
| X – non-compliant post D/C | X – non-compliant post D/C | X – non-compliant post D/C | |
| C – currently on medication | C – currently on medication | C – currently on medication | |

STROKE CORE MEASURES DOCUMENTATION

- Open “Core Measure” i-Vent on “Patient Specific Medication”
 - Subtype: “Stroke”
- Once all measures are met, document in “Pharmacist Progress Note”
 - **UBS Pharmacist Stroke Core Measure Evaluation:**
 - Patient is currently on the following stroke core measure medications:
 - Anti-thrombotic by end of hospital day 2: **Yes**
 - Anti-thrombotic: **Aspirin 325mg daily**
 - Statin: **Pravastatin 20mg every night at bedtime**
 - Anticoagulation: **Not indicated** in this patient
 - Patient was evaluated to assure core measures were met
 - **Pharmacist: Les Strokes** ext. 89558

ANTIBIOTIC TIME OUT TOOL



ANTIBIOTIC TIME OUT TOOL

Purpose: De-escalation of therapy to avoid resistance and unnecessary antibiotic use

- Identifies patients on antibiotics initiated within **past 48 to 72 hours**
- Open patient lists > Epidemiology (2nd listing) > Select respective floor
- Assess antibiotic usage and appropriateness of continued therapy for possible interventions
- Open “Antimicrobial Stewardship” i-Vent, as necessary
- Document assessment through “.abxtot” SmartPhrase
 - Contact Rachael Fuller, Prakash Shah, or Christy Yost to gain access to SmartPhrase

QUESTIONS



UNIT-BASED PHARMACY SERVICES

JORDAN M POTTER, PHARM.D

PHARMACY GRAND ROUNDS

BEAUMONT HOSPITAL, ROYAL OAK, MI

