

Continuous Antibiotic Infusions

The following guidance outlines expectations for providers, pharmacists, and nursing when Infectious Disease recommends continuous IV antibiotic infusions.

- Applicable to the following antibiotics: **ampicillin, ampicillin-sulbactam, cefazolin, cefepime, meropenem, nafcillin, oxacillin, penicillin G, piperacillin-tazobactam, vancomycin**

PROVIDERS – Ordering

- Enter the **total daily dose** the patient should receive over 24 hours using one of the following:
 - Weight-based dosing ‘per kg/day’
 - Non-weight-based dosing ‘per day’
- Select the ‘**continuous**’ frequency button

Troubleshooting: If either of the above is not available, please contact the unit pharmacist prior to entering the order.

PHARMACISTS – Order verification

Follow the prep instructions to ensure appropriate dosing, clear instructions, and the required prompts are included for nursing to administer the antibiotic continuously as desired. Prep instructions will be available in Epic to outline the expectations for pharmacists on antibiotics commonly requested to be continuous.

- Ensure **total daily dose** is ordered using either ‘per **day**’ or ‘per kg/day’ units
 - Intermittent dosing units (non-‘per day’ units) cannot be used with the ‘continuous’ frequency
- Ensure only the ‘**continuous**’ frequency is utilized
 - Selection of the ‘continuous’ frequency will still behave as an intermittent order in the background to ensure doses are not unintentionally capped
 - Epic will automatically dispense more drug based on stability
- Update the ‘**admin duration**’ to be over **to the time specified in the prep instructions**
 - The order will populate due times based on this duration to dispense new drug and populate MAR times
- Ensure the ‘**calculate rate from volume and admin duration**’ box is checked
- **Remove any conflicting admin instructions** regarding infusion durations that are not consistent with administering the dose over the specified ‘admin duration’

Troubleshooting:

The provider contacts you because ‘per **day**’ or ‘per kg/day’ units are not available:

- Inform the provider that the medication cannot be ordered as a continuous infusion at this time
- There is no way to modify the order to ensure the nurse has the needed prompts to administer the medication as desired. *Moving forward with an intermittent order with an admin duration equal to the frequency may result in the patient receiving the dose over the usual 30-60 minutes.*
- **Submit a ‘break fix’ ticket in Epic** to request the ‘per **day**’ or ‘per kg/day’ units made available for the medication along with a button for a ‘**continuous**’ frequency
 - Epic will confirm with pharmacy leadership about which specific continuous frequency button to add
- When the Epic build is available, the provider can place the continuous antibiotic order

The provider contacts you because a ‘**continuous**’ frequency button is not available:

- Confirm that ‘per **day**’ or ‘per kg/day’ units are available for the medication requested. If the units are not available, follow the process above.
- If the units are available, determine the longest interval the medication is typically given on an intermittent basis (every 4, 6, or 8 hours). Direct the provider to select this frequency when placing the order.
- During order verification:
 - Review the order to ensure the dose is not being capped by dose rounding or dose warning parameters unintentionally
 - Ensure total **daily** dose is ordered using either ‘per **day**’ or ‘per kg/day’

- Change the frequency to '**continuous**'
- Update the '**admin duration**' to be over **4 hours, 6 hours, or 8 hours** depending on the frequency being used
 - The order will populate due times based on this duration to dispense new drug and populate MAR times
- Ensure the '**calculate rate from volume and admin duration**' box is checked
- **Remove any conflicting admin instructions** regarding infusion durations that are not consistent with administering the dose over the specified 'admin duration'
- **Submit a 'break fix' ticket in Epic** to request the 'continuous' frequency button be made available for the medication
 - Epic will confirm with pharmacy leadership about which specific continuous frequency button to add

NURSING – Continuous Administration

When an antibiotic is ordered with a '**continuous**' frequency, follow the below steps to ensure it is administered continuously and the syringe/bag is replaced intermittently, as desired.

- Use the '**admin duration**' in the order to program the pump to infuse over the defined time
 - Do not infuse based on the typical infusion duration programmed in the pump for that drug
- Verify the **rate** in the pump matches the rate in the order
- The MAR will prompt the nurse with due times to hang a new syringe/bag based on a specified interval to ensure the drug is dispensed appropriately based on stability

Troubleshooting:

Any questions or concerns, please contact the unit pharmacist.

- If the '**admin instructions**' conflict at any time with any of the above information in the order, please contact the unit pharmacist for clarification.
- If the **infusion pump settings** conflict any time with the ordered rate or duration, please contact the unit pharmacist for assistance.